



WILLIS MFG.CO.

INCORPORATED 1891

CATALOG NO.7

GALESBURG
ILL. U.S.A.





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Mike Jackson, FAIA



H. F. WILLIS, *President*
I. R. WILLIS, *Vice-President*



R. B. WILLIS,
Secretary and Treasurer

Catalogue Number Seven

OF THE

Willis Manufacturing Company

INCORPORATED 1891
AUTHORIZED CAPITAL, \$100,000.00

MANUFACTURERS AND JOBBERS OF

Architectural Sheet Metal Goods
Underwriters' Labeled Metal Windows
Standard Tin-Clad Doors,
Shutters and Fixtures
and Affiliated Lines

OFFICE AND FACTORY:

152 to 160 North Academy Street
GALESBURG, ILLINOIS
U. S. A.



ANNOUNCEMENT



IN presenting this our General Catalog Number Seven to the building trades and architectural profession, we feel that it contains information, details and descriptive matter worthy of careful consideration, a place in your permanent files for future use and is the most complete book of the kind ever issued.

This catalog supersedes all previous catalogs. On account of changes in catalog numbers and list prices, all old issues should be discarded and application made for discount sheet applying to this issue. In arranging the matter contained herein, collecting the data and selection of designs we have carefully considered the present day requirements and needs, selecting only such as we deem best suited to serve their purpose.

The engravings and descriptions have been prepared with the greatest care to cover the essential points clearly and concisely, to represent the goods as they are. All parts have been revised and rearranged to make them easily and quickly understood.

Quality and thoroughness in the conduct of every phase of this business will be adhered to and emphasized in a manner that will insure satisfaction to the trade. We believe we are right in refusing to make up our products in a manner that would sell, but would not live because the merits of our work have won for us an enviable reputation which is our constant endeavor to maintain and extend. We solicit your orders and inquiries. Our entire physical and mental equipment is at your disposal and we are ready at any time to extend to you every courtesy known in trade.

Yours Truly,

WILLIS MANUFACTURING COMPANY



Notes of Importance

REQUEST: After receipt of this catalog do not use an old issue because our records will show you as having a copy of this latest catalog and we will naturally assume you are specifying from this issue.

TERMS: Unless we have otherwise specified or agreed upon, all invoices are payable thirty days net or 2% in ten days from date of invoice, in funds current in Chicago or New York. Do not send us personal checks, as banks charge us exchange at the rate of ten cents per one hundred dollars or fractional part thereof. When accounts are not paid at maturity we will send you a regular statement with notice that we will draw on you at a certain date unless we receive payment prior to that date.

DELIVERIES: All deliveries are subject to delay caused by strikes, fires or causes beyond our control. Unless otherwise specified or agreed upon, prices are always F. O. B. Cars at Galesburg, Ill. When prices are quoted, delivered, it refers to the freight charges only and not to the safe delivery of the materials, after proper shipping receipts have been issued us. Parcel post and express packages sent at purchaser's risk unless we have been requested to insure.

GUARANTEE: We will replace any piece of goods furnished by us, free of charge, found defective in workmanship or material, providing they have been used in a workmanlike manner.

RETURNED GOODS: Except by mutual agreement *do not* return any materials. When writing about any particular order specify the date of your order, our number and date of our invoice.

CLAIMS: Claims for errors or omissions must be made within five days of receipt of goods. Errors are made by the best, and we stand ready to correct those made by us and expect our customers to accept liability of their own mistakes.

ENGINEERING DEPT.: We maintain a drafting force which is at the service of our customers without charge when designing work along our line.



Willis Hollow Metal Fire-Proof Windows

TESTED, INSPECTED, APPROVED BY THE
UNDERWRITERS' LABORATORIES, INC.

Hollow metal window frames and sash glazed with wired glass are rapidly taking the place of wooden windows protected with sheet iron or metal clad shutters; because they give more protection, are sightly, admit light at all times and aid in the detection of fire.

We believe we have the simplest, easiest operating and best constructed window on the market. Sufficient recommendation for their adoption is the fact that they bear the Underwriters' Label and the truly representative class of buildings in which they are already installed, giving satisfaction and protection.

In this catalog we are showing only the types which are in the most demand but please bear in mind that we manufacture special windows or combinations of those shown to meet any condition. At all times we hold ourselves at your command to assist you in securing the results conditions dictate. On special construction the Underwriters' Label is conditional on a construction that meets their specifications.

All standard windows which we manufacture are equipped with the latest safety devices recommended by the National Board of Fire Underwriters. All hardware used by us is made by reputable manufacturers of high grade hardware and is not produced by ourselves of makeshifts. Each window as shipped bears a brass label of our trade-mark in addition to the brass label of the Underwriters' Laboratories. Sills of all styles and sizes of windows require concreting and the Underwriters prefer that this be done at the building site.

When submitting specifications for a quotation be sure to designate the number of openings required, the brick opening size or the number of lights per opening and the size of each, the style of sash, whether the heads of frames are square or segmental and the kind of glass. When this information is complete we can get you a quotation in the mail the day your specifications are received.

The following is a correct designation of the different kinds of wired glass: **ROUGH WIRE, RIBBED WIRE, MAZE WIRE, SHEET PRISM WIRE, or POLISHED WIRE.**

Whenever plans are sent us for estimating the requirements therefrom we gladly return them **PREPAID.**

As heretofore we will continue to try and get a quotation in the mail the same day the information is received here. We will endeavor to return plans with equal promptness.



Important Notice

The brick opening size of the following Styles "A," "C," "D," "E," "G," "H," "I," "K," "M," must not exceed in either dimension 5 ft. 0 in. x 9 ft. 0 in., and should the frames be segmental head the height is taken to the crown of arch. When the brick opening size exceeds the size mentioned above in width a vertical mullion must be provided and if in height a horizontal mullion must be provided. In other words, there is no limit to the brick opening size provided that sufficient mullions are included to secure units that do not exceed 5 ft. 0 in. x 9 ft. 0 in. Vertical and horizontal mullions must have 5 inches, 9 $\frac{3}{4}$ pound I-Beams inserted therein and concreted except that the brick opening does not exceed 9 ft. 0 in. x 5 ft. 0 in., and then beam and concrete are both dispensed with in the mullion.

The brick opening size for Style "B" is 10 ft. 0 in. x 9 ft. 0 in., with the same limitations and conditions as heretofore mentioned.

The brick opening size for Styles "F," "J," and "I" when single sash construction, is 4 ft. 6 in. x 5 ft. 0 in., or vice versa. When these types exceed this for width of opening a mullion must be provided to reduce unit sizes to that given herewith. These mullions are constructed for the insertion of I-Beams and concrete when they exceed 9 ft. 0 in. in width.

The brick opening size for Style "L," when two sash construction is 5 ft. 0 in. x 9 ft. 0 in. When one sash is 3 ft. 6 in. x 9 ft. 0 in.

No single light of glass to exceed 720 square inches or 48 inches in either dimension.

It has been requested by the Underwriters' Laboratories (Inc.) that all manufacturers of Metallic Windows bearing their label, make a decided effort to secure the proper installation of these windows. The Inspectors for the National Board of Fire Underwriters find that the filling of the sills and the glazing of the sash are the most frequently violated, where these improper installations occur.

In view of the above we quote from the GUIDE BOOK of the Laboratories:

FILLING OF THE SILLS

All sills to be filled with concrete or other incombustible material, or to be reinforced in such a manner as to prevent the metal from becoming dented. From the fire resistance viewpoint, a window with a hollow sill would be satisfactory, but such construction is objectionable on account of the liability of the sill becoming dented by the passing of heavy material through the window, or by the janitors standing on the sill while washing windows. It is, therefore, necessary to fill the sill with some substance of an incombustible nature, which can be placed in the sill in such a manner that it will not fall out while the window is being set in place. The materials most often used for this purpose are concrete, cement mortar, brick or tile masonry, or some form of gypsum.

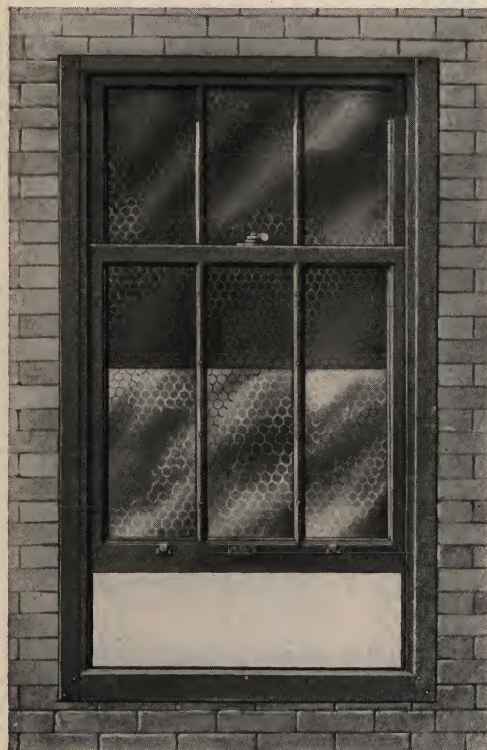
RULES RELATING TO GLAZING

Glass to have a thickness of at least $\frac{1}{4}$ inch at the thinnest point. The actual bearing of glass in grooves to be at least $\frac{5}{8}$ inch at all points. As the maximum depth of the grooves is $\frac{3}{4}$ inch, a space of $\frac{1}{8}$ inch is allowed between the bottom of the groove and the edge of the glass. Careful glazing is necessary to prevent one edge of the glass from resting on the bottom of the groove, thus decreasing the bearing surface on the opposite edge.

Glass to be set in putty and all space between glass and metal forming the sides and bottom of the grooves to be well filled with the same material. Surface of putty to be flush with the top of the grooves and finished smooth. The putty joint should be made in such manner as to prevent water from remaining in contact with the sheet metal and thus causing corrosion.



Windows



Style A, Double Hung

The construction of this window is almost identical to wooden windows, having metal parting strips and angle iron stops which are removable by loosening bolts. Therefore the method of attaching the weights and chain to the sash is the same as with double hung wooden windows. With each opening we include wire weight loops, also heavy wire attachment for securing the chain to the sash. A removable pocket cover is provided in each jamb for the insertion of the weights. The muntin caps are removable, which allows of easy glazing. This makes for a very economical installation which is not approached by any other manufacturer. At the meeting rails and between the sash and jambs the construction is such as makes the windows storm-proof and wind-proof.

The entire construction and finish is such as makes them acceptable for all first class buildings in daily use as offices and similar occupancy.

We furnish wired glass cut to size and packed separately, one-piece cast iron sash weights, sash chain, apply the hardware, prime the metal one coat, fit and adjust the sash to the frame and attach the underwriters' label.

In setting the windows care should be exercised to have them plumb and level to insure a perfect working sash.

Limitations as to brick opening size is noted on page 5.

Square, segment or half-segment heads can be furnished as required.



Style B, Mullion Double Hung

The construction of this style is same as style A above, with the addition of the mullion.

Limitations as to brick opening size as shown herewith is fully described on page 5.

Please bear in mind when considering quotations on a comparative basis that our mullioned windows are delivered to you with mullions made up and that you do not have the expense of assembling all the parts at the job, causing you an unanticipated expense.

We do not recommend the use of mullions if it is possible to secure the results by confining the requirements to the single unit construction.

We construct a single light sash which is more expensive than the two light sash. You should take note that the Underwriters do not allow their label attached to a construction in which the glass sizes exceed 720 square inches per light.

WINDOWS—Continued



Style C, Double Hung with Transom

In Style "D" we present the counterbalanced type of sash. This being a style which does not require sash weights as one sash is hung to the other by sash chain running over pulleys in the head of frame.

We do not recommend this type because if wanting ventilation both sash will be open and this is very often not wanted. It seems to be a thought that this makes a cheaper construction which is erroneous.

Whenever a customer prefers we will quote prices without the glass required and will furnish a list of sizes; however, the Inspection Bureaus prefer that the manufacturer be required to include the glass and this will be done unless instructed differently.

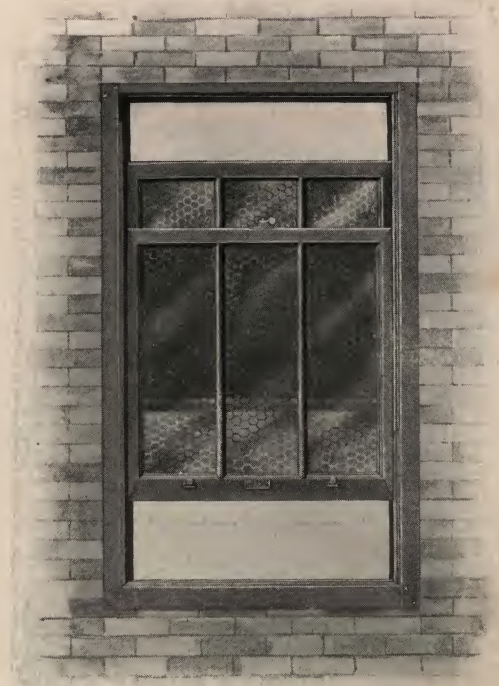
In all cases we include RIBBED WIRE glass cut to size and packed separately unless you specify a different glass.

This style is used where light and ventilation is required nearer the ceiling. Any combination of sash can be furnished in an opening to meet the requirements of the customer.

With a transom bar as shown herewith the height is limited to 9 ft., and when this measurement is exceeded we provide a special transom bar construction that must be reinforced with 5 in. 9 $\frac{3}{4}$ lbs. I-Beam concreted and is designated as a horizontal mullion. The width of the opening can exceed 5 ft. 0 in. by providing a vertical mullion reinforced as heretofore mentioned.

Do not overlook the fact that we believe we have the facilities, the product and the ability to furnish you with a labeled construction for any requirement whatsoever as long as you keep within the rules laid down by the National Board of Underwriters. It is always a pleasure to have an opportunity to lay out a scheme for such construction so that it can be submitted to the Inspection Bureau having jurisdiction for their approval.

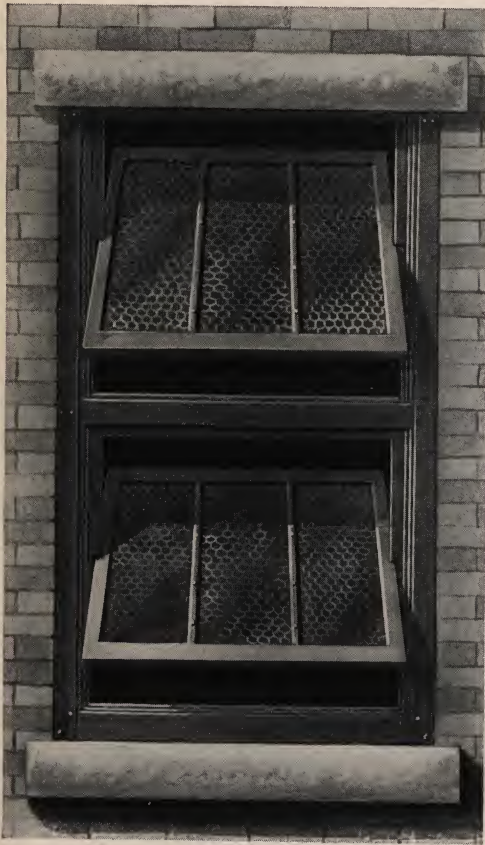
If in doubt as to our ability to produce the materials, or make the deliveries, or the class of buildings into which they are installed, we ask that you examine an installation had in your city or write the people where used for an expression as to the entire satisfactoriness of our dealings.



Style D, Counterbalanced



WINDOWS—Continued



Style E, Double Pivoted

This style is for use where the requirements are for an additional amount of ventilation. Both sash in this style are pivoted. On each top and bottom rails automatic locks are attached. The locks on each sash are released for opening by pulling the chain. To hold open a ring is provided at the end of chain which is hooked onto the transom bar lock plate. A fusible link is a part of each chain equipment which releases the sash for automatic closing when attacked by heat at 155 degrees. At all points the sash intersect with the frames to make a thoroly weather proof and satisfactory product.

Do not specify a single light sash unless it is of vital importance for this increases the expense on the requirements and the Underwriters' do not allow their label to be applied to a construction which requires glass in lights containing more than 720 square inches.

The brick opening size is governed as hereinbefore specified.



Style F, Single Pivoted

This style is used principally in basement openings, in roof-pent houses and such places as conditions make it the most adaptable. The construction is the same as used in all our manufacture and will give the same satisfactory service.

We wish you to note that the construction and locking devices provided on all styles is such that they cannot be forced from the outside except that the force used to open destroys the sash or glass.

Square, segment or half-segment heads can be provided on all styles, but remember that when of the last two types that the height of opening is computed to the crown of arch.

Brick opening limitations, rules for glazing and concret-ing of sills are given in this section of catalog.

WINDOWS—Continued



Style G, Pivoted Upper, Stationary Lower



Style H, Stationary Upper, Pivoted Lower

There is no style of window construction which is more generally used in factory, garage or warehouse building than this. It will give all the light possible to secure and ventilation near the ceiling. It is advantageous for use when workmen are employed in rooms with openings protected with this construction because their attention cannot be diverted from the work in hand by having it attracted with things occurring on the outside for they cannot observe those things, the lower sash not being movable and filled with a non-transparent glass.

The limitations as to opening size is set forth on page 5. The Underwriters do not allow any light of glass to exceed 720 square inches.

All hardware is malleable iron, the pivot holders have brass bushings, the sash are positive closing in case of fire, being hung with fusible links.

This style is the same in general detail, the only difference being in the location of the movable sash. This style is sometimes required to overcome a special condition and therefore has no general sale.

In every style manufactured by us we fit the hardware to their parts and the sash are shipped fitted to the frames. To complete you have no expense for such work.

In setting care should be practiced to see that the frames are plumb and level which will guarantee perfect working sash without additional attention.

Our quotations will specify what we propose to furnish in the way of glass which will be cut to size and packed separately and unless you specify a kind of glass we will propose ribbed wire. Unless we specify as having included specials none of our quotations are to be interpreted to include other than standard accessories and of standard detail.



WINDOWS—Continued



Style I, Stationary

This style gives the maximum amount of protection and light but does not provide any ventilation. The cost of it, therefore, is the cheapest of any construction. Whenever light and protection is wanted and ventilation is not a factor this is the style that should be specified.

The brick opening size limitation, as shown in the cut, is 5 ft. 0 in. x 9 ft. 0 in., and when larger is constructed with standard mullions as in any other style. We also build this for brick opening limitations of 5 ft. 0 in. x 4 ft. 6 in., or vice versa, in a single sash construction.

Do not overlook filling the sills of every frame as noted by us on page 5. This is important as set forth and will secure the best results.

The glazing of sash by our method is very simple, easily and quickly accomplished. Care should be practiced by following the instructions on page 5. After you have completed the installation of a few openings you will find a similarity to wood windows that is not approached by any other manufacturer and we know that your work, because of this, will be greatly reduced, which means profits.



Style J, Hinged Sash

This style has the same strong construction features of our other styles. There are many reasons why a top hinged sash is preferable, but it is especially useful when the opening is to be used for passing materials in or out of the building. The maximum size, that is permissible up to the limitation, will provide a clear opening of approximately 2,300 square inches.

By referring to page 5 you can ascertain the brick opening size limitation.

In this catalog we are trying to cover all standard requirements with complete information. Should you be in doubt as to the meaning, or rulings, or have special conditions to overcome, do not hesitate to write us. We will try to be prompt and complete with a reply.

WINDOWS—Continued



Style K, Pivoted Upper, Casement Lower



Style L. Casement Sash

Both styles shown on this page are of the same class and will be treated here as such.

The brick opening size limitation when of two casement sash will be 5 ft. x 9 ft., but when wanted with only one casement sash the limitation will be 3 ft. 6 in. x 9 ft.

In style K the upper sash can be stationary, top hinged or pivoted.

In style K or L the casement sash can be single to swing from either jamb or a two sash construction as shown. Any type can be made to swing either in or out. When sending in specifications for these styles be very clear in stating the requirements and should you deem it necessary illustrate by rough pencil sketch. It will greatly assist us in coming quickly to a correct understanding of your needs.


Both styles illustrated here are used principally at openings which communicate with fire escapes and of course are used at other openings when they are better adapted to secure the results in the architectural scheme or the needs of the occupant.

The hardware we use in all our work is made for us by reputable manufacturers of high grade products. We do not attempt to make any hardware, for we feel certain that better satisfaction can be given to all by purchasing our requirements as set forth above. The cremorne bolts used on the casement sash are exceptionally heavy construction and of neat design. They have the three point contact locking feature. By examining the engraving you will see that there are no chains, springs or other features to easily get out of order.

Metal panels can be used in these styles when the exposed panel area does not exceed 720 square inches or 48 inches in either dimension. These panels can be puttied or soldered into place, but must have the same bearing in the grooves as required for glass.



WINDOWS—Continued



This is a combination of styles I and J, which may at times be desirable. The construction is hollow air chamber throughout. The sash may be reversed as to their position in the frame or both sash may be hinged.


Any of our types may be made in mullioned openings.

Square, segment or half-segment frames can be furnished as you require. Please remember that unless you designate the type of head we assume that the square head will fill the needs. All quotations will so designate.

Glass is described on page 41 and glazing rules will be found on page 5.

The Underwriters' Laboratories require that the manufacturer prime the metal one coat both sides before shipment.

Style M, Stationary Lower, Hinged Upper



This is a special type which is in considerable favor in cold countries where the need of storm sash is especially felt. The storm sash shown above has been used by us in all our different types of openings. We have been informed by the customers using them that they have proven very successful.

The construction is hollow air chamber throughout, being the same as our other standard types. The hardware is of the best.

Every product manufactured by us will bear a brass label of our trade mark, a fac-simile shown herewith.



Style N, a Type with Storm Sash

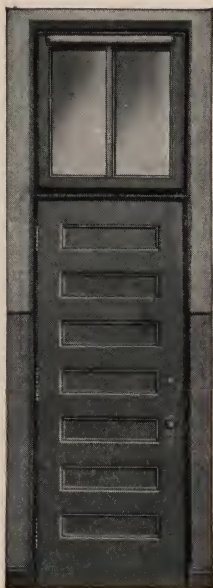
WINDOWS—Continued



Style AB



Style AC



Style AD

The styles shown on this page illustrate combination openings and can be used for interior or exterior openings.

Any style of sash can be used for sidelights or transoms and the doors can be tin-clad, or paneled art metal doors of the Kaelamein or hollow metal type. These can be so constructed as to bear the label or in a cheaper construction as the requirements dictate. The frames of doors can be wood metal covered or of structural iron or of hollow metal, as you may dictate.

When specifying for openings of this nature we ask that rough pencil sketches be made of the elevation, that the measurements be inserted at the different parts, that the size and kind of door and frame be indicated, that the style of sash for sidelights or transoms be specified, also the kind of glass and unless you indicate otherwise we will naturally assume you require label bearing parts.

We especially like to submit drawings and proposals for constructions of this nature and any other specials that might arise. Our drafting department and plant equipment is of such completeness that we feel sure of our ability to satisfy you in obtaining the results you may have in mind.

If any product is required for openings in walls already built, this should be indicated for in the absence of such information we will assume that the requirements are for new walls that will be constructed after setting of the parts.

The engravings shown herewith were prepared from photographs taken of installations already made. We believe you will agree that they do not detract from the appearance or the architectural scheme of the building.

Every prospect or order has the attention and supervision of a stockholder of the corporation and we believe you will naturally secure better products and satisfaction because of that condition.

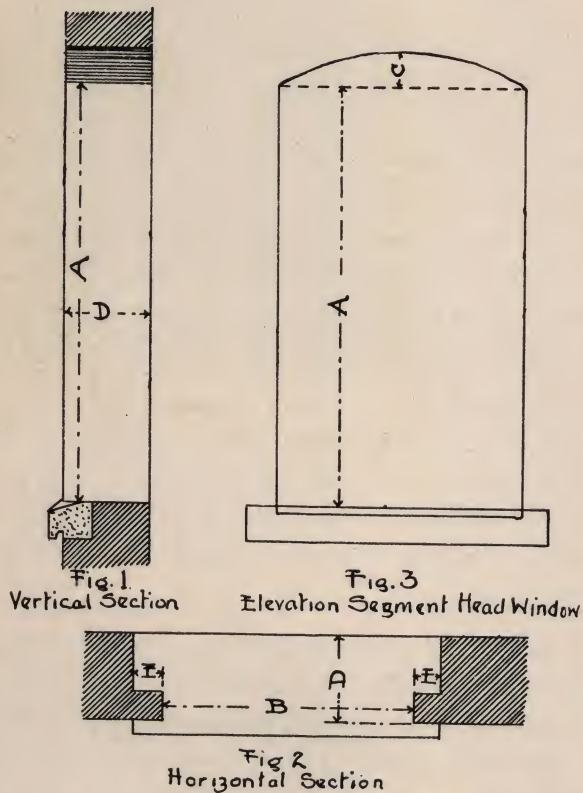
See page 35 for description of door frames. We can provide you with complete requirements.



WINDOWS—Continued

In Taking Measurements follow these Instructions.

- A- Height of Brick Opening from Sill to Spring of Arch.
- B- Outside Brick Opening.
- C- Rise of Arch
- D- Thickness of Wall.
- E- Offset if any.



Where the Sections of Wall are not built as shown here, a Full Size Drawing of Sections should be sent.

This engraving is especially useful when specifying for windows that are to be placed in walls already built. The information at "D" is not essential unless the wall is less than 12 inches, in which case we will require the wall thickness.

When securing the requirements from the plans for submitting the information at "A" and "B" are the essentials and if segment head at "C." The "C" measurement will not be required if they will allow us to use the standard radius which is secured by using the width of the opening as the radius.

If the plans do not give the opening sizes but indicate the number of lights per opening and the size of each light this information, specifying the style of sash and type of head is all that will be required. This will enable us to figure our own opening sizes and guarantees the securing of a certain amount of glass area which very often is essential to the architect. However, do not exceed the Underwriters' limits and require their label applied to the windows. If at all in doubt on this or any other point we will gladly advise with you in the matter.

Should you prefer to send the architect's plans and specifications requiring us to obtain the necessary information therefrom we will gladly accept them and will make a special point of trying to get the plans back into the express or postal authorities' hands the same day they are delivered to our office. It is a rare occasion that it

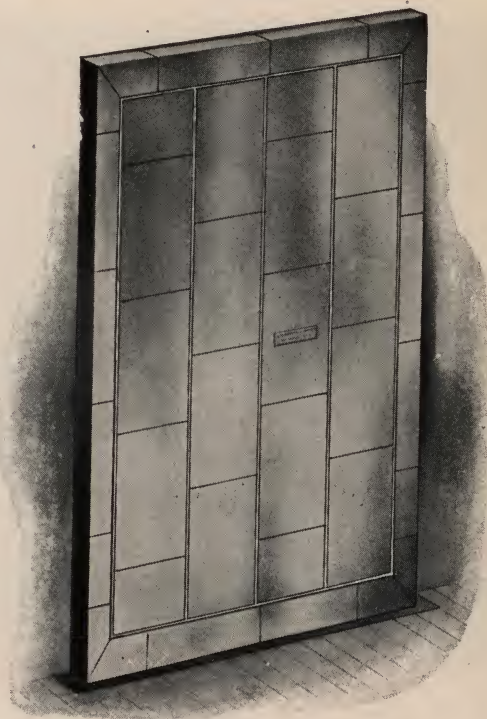
would be impossible to do this. Should you desire them returned by some special route or transportation we will gladly try and abide by such instructions as you give. Should you be in a hurry for their return or would prefer that we retain them until you have had an opportunity of comparing the quotations, would ask that you give instructions so that we could govern ourselves according to your wishes.



Willis Standard Tin Clad Fire Doors and Shutters

Approved and Labelled by National Board of Fire Underwriters after exhaustive tests by the Underwriters' Laboratories, (Inc.)

Standard three-ply ($2\frac{5}{8}$ inch) Doors are made of three thicknesses of boards, dressed to 13-16 inch full, the outside layers vertical and inner layer horizontal; thoroughly fastened together by wrought iron clinch nails not over 8 inches apart, extending clear through the door and clinched on the back side, leaving both surfaces of the door smooth; double lock joints in the tin covering as required under the rules of the National Board of Fire Underwriters. Weight, 8 pounds per square foot.



Standard two-ply ($1\frac{3}{4}$ inch) Doors are made of two thicknesses of boards, dressed to 13-16 inch full, with one layer vertical and one horizontal; thoroughly fastened together by wrought iron clinch nails not over 8 inches apart, extending clear through the door and clinched on the back side, leaving both surfaces of the door smooth; double lock joints in the tin covering as required under the rules of the National Board of Fire Underwriters. Weight, 6 pounds per square foot.

Standard Fire Shutters are made in the same manner as two-ply ($1\frac{3}{4}$ inch) doors and are of the same thickness.

Standard Fire Shutters are used on the outside of buildings to protect window openings.

We also manufacture these tin-clad doors with glass panels and bearing the label for openings in corridor or room partitions and to exterior fire escapes. The exposed glass area in doors for use in corridor and room partitions is not to exceed 1296 square inches and when doors are to exterior fire escapes not to exceed 720 square inches. In no case must the glass exceed 48 inches in either dimension.

PRICE LIST

No. 130—Standard three-ply ($2\frac{5}{8}$ -inch) Fire Doors, square or incline top, per square foot.....	.90
No. 131—Standard two-ply ($1\frac{3}{4}$ -inch) Fire Doors, square or incline top, per square foot.....	.80
No. 132—Standard Fire Shutters, square or arched top, per square foot.....	.80
Discount.....	

Directions for Ordering—State following: First—If openings are square or arched top. Second—If doors are incline or square top. Third—If doors or shutters are flush with or overlap the opening. Fourth—If doors slide or swing. Fifth—If they are used single or in pairs. Sixth—If they are used on fire-wall, vertical shaft, corridor or room partition, exterior wall or an opening on to fire escape.

Note—Always specify where door will be used, so that we can attach the proper Underwriters' label with number.



No. 151 Willis Fire Door and Fixtures

Inspected by Underwriters' Laboratories (Inc.) Under Direction of the National Board of Fire Underwriters

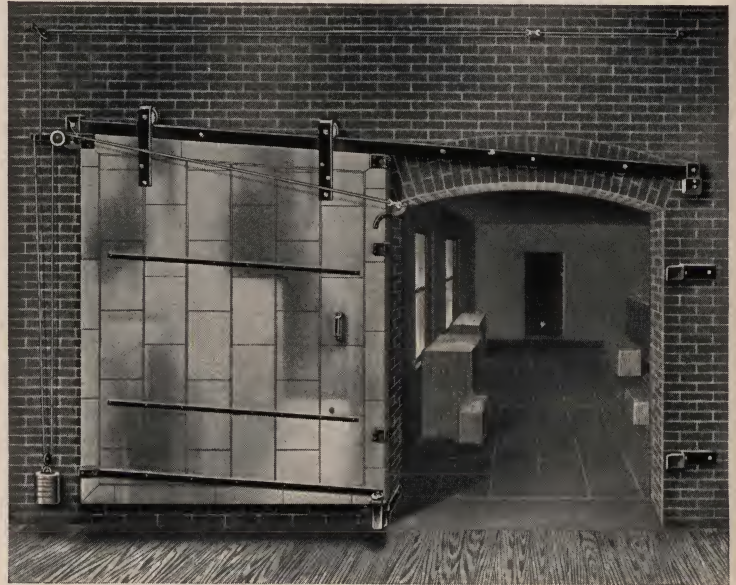
TWO-LINK FIXTURES FOR THREE-PLY (2½-INCH) DOORS

Illustrated Flat Track Hardware included in list of Fire Door Hardware approved and labeled by National Board of Fire Underwriters.

We recommend No. 151 Fixtures where head-room exceeds 3 feet.

This arrangement of automatic device provides two fusible links—one constantly in opening and exposed from both sides, and one link near ceiling. If either link fuses, door is released and closes by gravity. If doors are used on both sides of wall, the cord can be made to pass through wall near ceiling at point where it is shown attached in illustration, and same arrangement continued on other side, thus providing four links. The fusing of any one releases both doors.

The No. 152 or single fusible link style is intended for use when head-room is less than 3 feet and a two-link fixture cannot be used to advantage. The only difference is in the link and cord arrangement. Both styles are approved.



Price List for Hardware—Doors extra as per size required

Price list includes non-adjustable hangers, track and fixtures complete for doors when used on one side of wall only. If doors are to be used on both sides of wall, double sets will be required and the price will be doubled. Fixtures packed complete with all bolts and screws for attaching parts to door, heavy cast washers for wall bolts and necessary counterbalance weights. Wall bolts are not included, but will be furnished at a moderate price if thickness of wall is given.

Width of Opening with 1 pr. Hangers		No. 152 Price List	No. 151 Price List	Weight per Set lbs.	* Width of Opening with 1½ pr. Hangers		No. 152 Price List	No. 151 Price List	Weight per Set lbs.
3	feet.....	\$17.70	\$19.00	170	6½	feet.....	\$22.40	\$23.70	250
3½	feet.....	18.05	19.40	178	7	feet.....	22.70	24.00	258
4	feet.....	18.40	19.70	187	7½	feet.....	23.00	24.30	266
4½	feet.....	18.70	20.00	195	8	feet.....	23.40	24.70	282
5	feet.....	19.05	20.30	205	8½	feet.....	23.70	25.00	288
5½	feet.....	19.40	20.70	215	9	feet.....	24.00	25.30	297
6	feet.....	19.70	21.00	225	9½	feet.....	24.40	25.70	305
					10	feet.....	24.70	26.00	315

* For openings (not doors), over 6 feet wide, Underwriters require three hangers.

Discount.....

Directions for Ordering—See page 34, and give all dimensions asked for.

Note—Square top opening requires 14 inches of head-room for non-adjustable hangers and 17 inches for adjustable hangers at edge of opening toward which the door slides in closing and ¾ inch more for each additional foot of track. Arched top opening requires 14 inches head-room above the top of arch and ¾ inch more for each foot the track extends beyond the center. Fixtures require 13½ inches of side wall room on side toward which door slides in closing and opposite side the width of opening plus 22 inches. To determine length of track, double width of opening and add 21 inches.

This type of hardware is also manufactured for standard 2-ply doors.

The cost of doors to cover the openings is not included in the hardware prices given above and therefore are additional. The tin-clad doors are completely described on page 15.

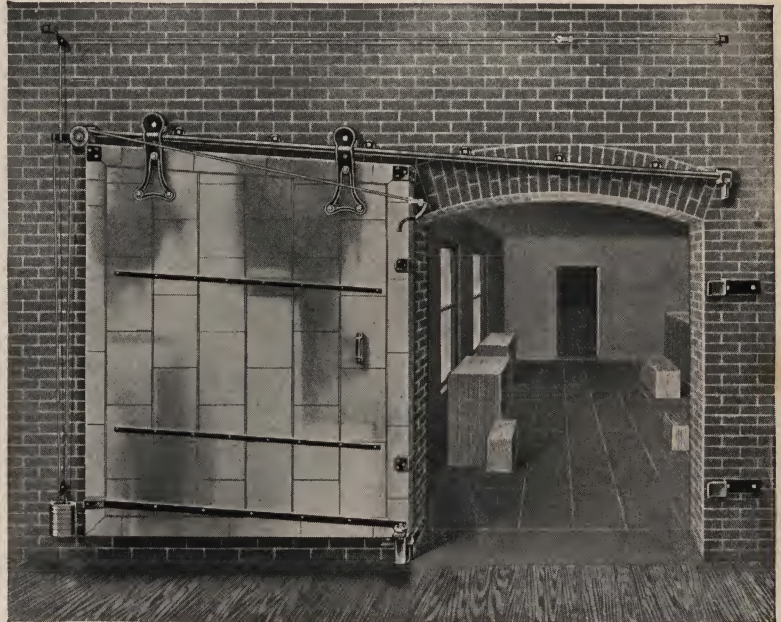
No. 149 Willis Fire Door and Fixtures

Inspected by Underwriters' Laboratories (Inc.) under direction of the National Board of Fire Underwriters

TWO-LINK FIXTURE FOR THREE-PLY (2½-INCH) DOORS

Illustrates Round Track Hardware included in list of Fire Door Hardware **approved and labeled** by National Board of Fire Underwriters. For use where head-room exceeds 3 feet. This arrangement of automatic device provides two fusible links—one constantly in opening and exposed from both sides, and one link near ceiling. If either link fuses, door is released and closes by gravity. If doors are used on both sides of wall, the cord can be made to pass through wall near ceiling at points where it is shown attached in illustration, and same arrangement continued on other side, thus providing four links. The fusing of any one releases both doors.

The No. 150 or single link fixture is intended for use when head-room is less than 3 feet, and a two-link fixture cannot be used. Both styles approved.



Price List for Hardware—Doors extra as per size required

Price list includes non-adjustable hangers, track and fixtures complete for doors when used on one side of wall only. If doors are to be used on both sides of wall, double sets will be required and the price will be doubled. Fixtures packed complete with all bolts and screws for attaching parts to door, heavy cast washers for wall bolts and necessary counter balance weights.

Wall bolts are not included but will be furnished at moderate price if thickness of wall is given.

Width of Opening with 1 pr. Hangers		No. 150 Price List	No. 149 Price List	Weight per Set lbs.	* Width of Opening with 1½ pr. Hangers	No. 150 Price List	No. 149 Price List	Weight per Set lbs.
3 feet.....		\$13.30	\$14.30	147	6½ feet.....	\$16.80	\$17.80	203
3½ feet.....		13.55	14.55	154	7 feet.....	17.05	18.05	210
4 feet.....		13.80	14.80	160	7½ feet.....	17.30	18.30	217
4½ feet.....		14.05	15.05	167	8 feet.....	17.55	18.55	223
5 feet.....		14.30	15.30	175	8½ feet.....	17.80	18.80	229
5½ feet.....		14.55	15.55	181	9 feet.....	18.05	19.05	236
6 feet.....		14.80	15.80	185	9½ feet.....	18.30	19.30	242
					10 feet.....	18.55	19.55	250

* For openings (not doors), over 6 feet wide, Underwriters require three hangers.

Directions for Ordering—See page 34, and give all dimensions asked for.

Discount.....

Note—Square top opening requires 12 inches of head-room for non-adjustable hangers at edge of opening toward which the door slides in closing and ¾ inch more for each additional foot of track. Arched top opening requires 12 inches head-room above the top of arch and ¾ inch more for each foot the track extends beyond the center. Fixtures require 13½ inches of side-wall room on side toward which door slides in closing and opposite side the width of opening plus 18 inches. To determine length of track, double width of opening and add 15½ inches.

This type of hardware is also manufactured for standard 2-ply doors.

The cost of doors to cover the openings is not included in the hardware prices given above and therefore are additional. The tin-clad doors are completely described on page 15.



Wall Bolt List

Showing Number of Wall Bolts Required to Erect Fixtures Complete

For No. 151 and 152 Fixtures					For Nos. 149 and 150 Fixtures						
Total No. of Bolts	TRACK BOLTS		Binder Bolts	Guide Roller Bolts	Size of Opening	Total No. of Bolts	TRACK BOLTS			Binder Bolts	Guide Roller Bolts
	Intermediate	End					Front	Intermediate	Rear		
10	3	2	4	1	3 ft.	11	1	4	1	4	1
10	3	2	4	1	3 ft., 3 in.	12	1	5	1	4	1
10	3	2	4	1	3 ft., 6 in.	12	1	5	1	4	1
10	3	2	4	1	3 ft., 9 in.	12	1	5	1	4	1
10	3	2	4	1	4 ft.	12	1	5	1	4	1
10	3	2	4	1	4 ft., 3 in.	12	1	5	1	4	1
10	3	2	4	1	4 ft., 6 in.	12	1	5	1	4	1
11	4	2	4	1	4 ft., 9 in.	12	1	5	1	4	1
11	4	2	4	1	5 ft.	13	1	6	1	4	1
12	5	2	4	1	5 ft., 3 in.	13	1	6	1	4	1
12	5	2	4	1	5 ft., 6 in.	13	1	6	1	4	1
12	5	2	4	1	5 ft., 9 in.	13	1	6	1	4	1
12	5	2	4	1	6 ft.	13	1	6	1	4	1
12	5	2	4	1	6 ft., 3 in.	15	1	8	1	4	1
12	5	2	4	1	6 ft., 6 in.	15	1	8	1	4	1
12	5	2	4	1	6 ft., 9 in.	15	1	8	1	4	1
12	5	2	4	1	7 ft.	15	1	8	1	4	1
12	5	2	4	1	7 ft., 3 in.	16	1	9	1	4	1
12	5	2	4	1	7 ft., 6 in.	16	1	9	1	4	1
14	7	2	4	1	7 ft., 9 in.	16	1	9	1	4	1
14	7	2	4	1	8 ft.	16	1	9	1	4	1
14	7	2	4	1	8 ft., 3 in.	16	1	9	1	4	1
14	7	2	4	1	8 ft., 6 in.	16	1	9	1	4	1
15	8	2	4	1	8 ft., 9 in.	16	1	9	1	4	1
15	8	2	4	1	9 ft.	16	1	9	1	4	1

Up to 11-foot opening same as 9-foot opening

Openings 9 feet 3 inches to 11 feet require 10 bolts for Intermediate Track Brackets

For Fixtures on One Side of Wall—Estimate two end track bolts 4 inches longer than thickness of wall and intermediate track bolts 4 inches longer than thickness of wall; binder bolts thickness of wall plus 2 inches and guide roller bolt, thickness of wall plus 1 inch.

For Fixtures on Both Sides of Wall—Estimate as follows: For track, two end bolts 6 inches longer than thickness of wall and intermediate bolts 5 inches longer than thickness of wall. For binders, all bolts 2 inches longer than thickness of wall. For guide roller, bolts same length as thickness of wall.

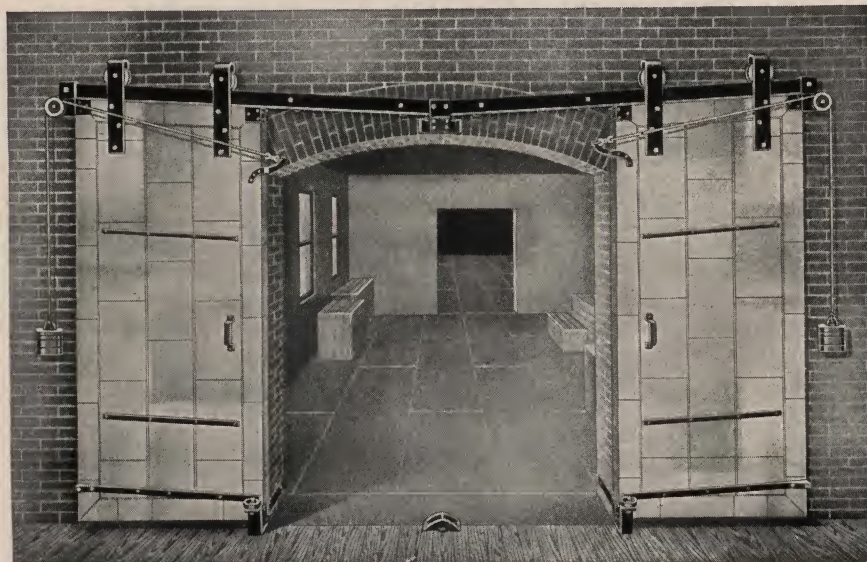
For Hardware Used on One Side of Wall—Front track bolt should be 6 inches longer than thickness of wall. Rear track bolt 7 inches longer than thickness of wall. Intermediate track bolts and binder bolts 2 inches longer than thickness of wall. Guide roller bolt 1 inch longer than thickness of wall.

When Hardware is Used on Both Sides of Wall—The front track bolt should be 9 inches longer than thickness of wall. Rear track bolt 12 inches longer than thickness of wall. Intermediate track bolts and binder bolts 2 inches longer than thickness of wall. Guide roller bolt same thickness as wall.



No. 153 Willis Fire Door and Fixtures for Double Doors

FIXTURES FOR THREE-PLY ($2\frac{5}{8}$ -INCH) OR TWO-PLY ($1\frac{3}{4}$ -INCH) DOORS



This fixture is the same as No. 152, except that it is applied to double doors.

Designed to meet special conditions, such as have not sufficient pocket room on one side to slide a large door, or if an overhead carrier system track passes through the opening.

Made regularly for three-ply ($2\frac{5}{8}$ inch) doors, but can be furnished for two-ply ($1\frac{3}{4}$ inch) doors on application.

This type has one fusible link on each door and both are exposed in the opening.

Price List for Hardware—Doors extra as per size required

The following price list includes non-adjustable hangers, track and fixtures complete for doors when used on one side of wall only. If doors are to be used on both sides of wall, double sets will be required and the price will be doubled. Fixtures packed complete with all bolts and screws for attaching parts to door, heavy cast washers for wall bolts and necessary counter balance weights.

Wall bolts not included, but will be furnished at moderate price if thickness of wall is given.

Width of Opening with 2 pr. Hangers			Width of Opening with 2 pr. Hangers		
	Price List	Weight per Set lbs.		Price List	Weight per Set lbs.
3 feet.....	\$31.40	230	6½ feet.....	\$36.70	286
3½ feet.....	32.10	235	7 feet.....	37.40	292
4 feet.....	32.80	241	7½ feet.....	38.10	297
4½ feet.....	33.50	258	8 feet.....	38.80	303
5 feet.....	34.20	264	8½ feet.....	39.50	308
5½ feet.....	34.90	269	9 feet.....	40.20	326
6 feet.....	35.60	275	9½ feet.....	40.90	331
			10 feet.....	41.60	337

Discount.....

Directions for Ordering—See page 34, and give all dimensions asked for.

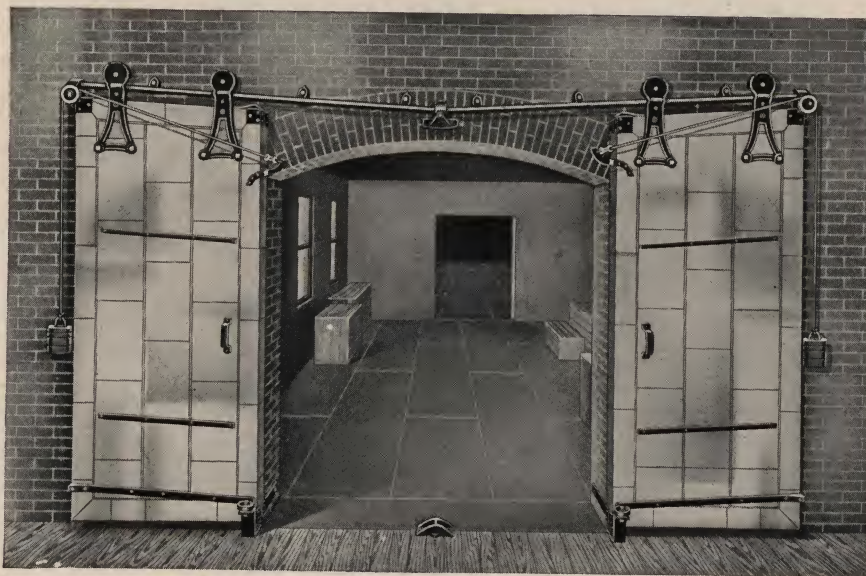
Note—Dimensions of head-room and side-wall room required on this fixture are the same as No. 152, illustrated on page 16. To determine length of track for each door, add 8 inches to actual width of opening.

The cost of doors to cover the openings are not included in the hardware prices given above and therefore are additional. The tin-clad doors are completely described on page 15.



No. 155 Willis Fire Doors and Round Track Fixtures for Double Doors

FIXTURES FOR THREE-PLY ($2\frac{5}{8}$ -INCH) DOORS



This fixture is the same as No. 149, illustrated on page 17, except that it is applied to double doors. Made regularly for three-ply ($2\frac{5}{8}$ -inch) doors, but can be furnished for two-ply ($1\frac{3}{4}$ inch) doors on application.

This type has one fusible link on each door and both are exposed in the opening.

Price List for Hardware—Doors extra as per size required

The following price list includes non-adjustable hangers, track and fixtures complete for doors when used on one side of wall only. If doors are to be used on both sides of wall, double sets will be required and the price will be doubled. Fixtures packed complete with all bolts and screws for attaching parts to door, heavy cast washers for wall bolts and necessary counter balance weights.

Wall bolts are not included, but will be furnished at moderate price if thickness of wall is given.

Width of Opening with 2 pr. Hangers		Price List	Weight per Set lbs.	Width of Opening with 2 pr. Hangers		Price List	Weight per Set lbs.
3 feet.....		\$23.55	195	6½ feet.....		\$27.50	240
3½ feet.....		24.10	198	7 feet.....		28.05	242
4 feet.....		24.60	206	7½ feet.....		28.60	255
4½ feet.....		25.10	209	8 feet.....		29.10	257
5 feet.....		25.65	216	8½ feet.....		29.60	266
5½ feet.....		26.15	220	9 feet.....		30.15	268
6 feet.....		26.70	224	9½ feet.....		30.65	280
				10 feet.....		31.20	282

Discount.....

Directions for Ordering—See page 34, and give all dimensions asked for.

Note—Dimensions of head-room and side-wall room required on this fixture are the same as No. 149, illustrated on page 17.

To determine length of track for each door, add 7 inches to actual width of opening. The tin-clad doors are completely described on page 15.

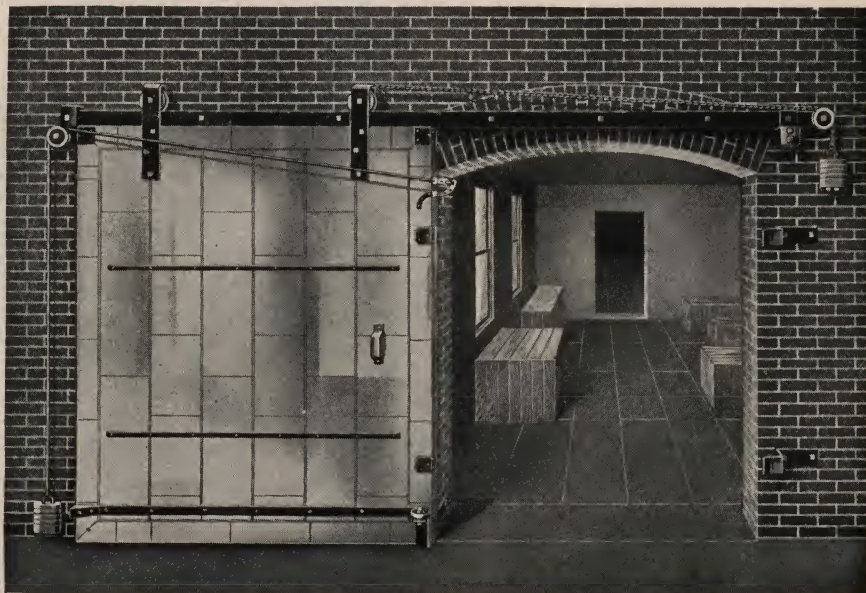


No. 154 Willis Level Track Fire Door and Fixtures

FIXTURES FOR THREE-PLY (25/8-INCH) OR TWO-PLY (13/4-INCH) DOORS

This style fixture is used for openings where there is not enough head-room to place track on an incline of $\frac{3}{4}$ inch to the foot. Two sets of weights are used to balance the door. The back weights are held in position by a fusible link. In case of fire this link fuses and allows back weights to drop and the front weights then pull the door shut.

This fixture is the same style as No. 152, shown on page 16, except that it operates on level track. This type has but one fusible link which is exposed in the opening.



Price List for Hardware—Doors extra as per size required

The following price list includes non-adjustable hangers, track and fixtures complete for doors when used on one side of wall only. If doors are to be used on both sides of wall, double sets will be required and the price will be doubled. Fixtures packed complete with all bolts and screws for attaching parts to door, heavy cast washers for wall bolts and necessary counter balance weights.

Wall bolts are not included, but will be furnished at moderate price if thickness of wall is given.

Width of Opening with 1 pr. Hangers			* Width of Opening with 1½ pr. Hangers		
	Price List	Weight per Set lbs.		Price List	Weight per Set lbs.
3 feet.....	\$19.95	182	6½ feet.....	\$26.10	254
3½ feet.....	20.55	188	7 feet.....	26.65	259
4 feet.....	21.10	202	7½ feet.....	27.20	265
4½ feet.....	21.60	208	8 feet.....	27.80	273
5 feet.....	22.15	213	8½ feet.....	28.40	279
5½ feet.....	22.75	225	9 feet.....	29.05	293
6 feet.....	23.40	233	9½ feet.....	29.70	299
			10 feet.....	30.30	304

* For openings, not doors, over six feet wide, Underwriters require three hangers.

Discount.....

Directions for Ordering—See page 34 and give all dimensions asked for.

Note—This fixture requires 14 inches of head-room for non-adjustable hangers and 17 inches for the adjustable hanger. Side-wall room required on side toward which door slides in closing 19 inches and on opposite side the width of opening plus 19 inches.

To determine length of track, double width of opening and add 29 inches.

See page 15 for description of Standard Approved and Labeled Tin-clad Doors.



No. 168 Willis Fire Door and Special Level Drop Bracket Track Fixtures

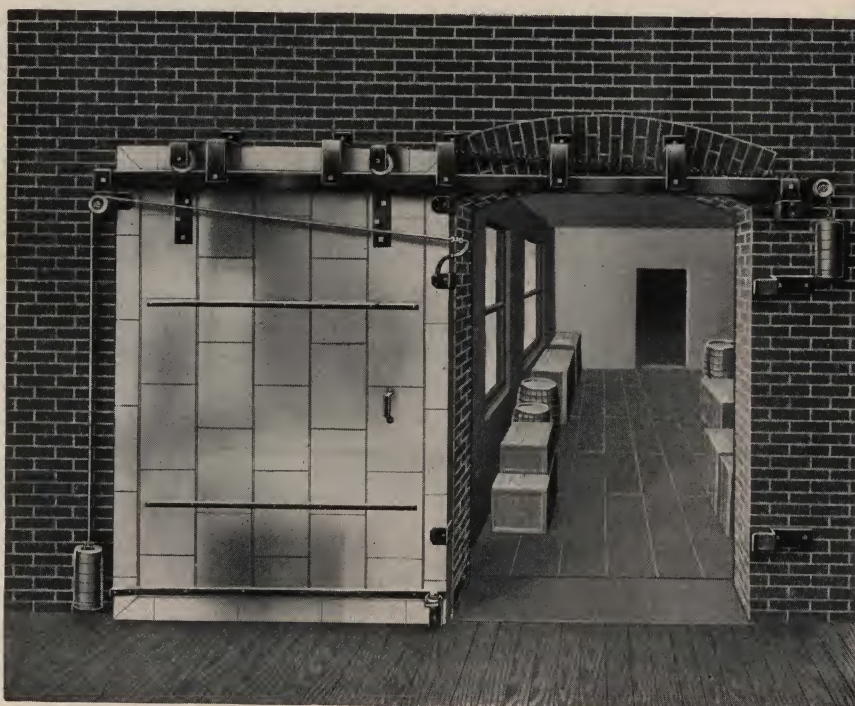
DESIGNED ESPECIALLY FOR LOW HEAD-ROOM
FIXTURES FOR THREE-PLY (2 $\frac{5}{8}$ -INCH) OR TWO-PLY (1 $\frac{3}{4}$ -INCH) DOORS

This style fixture is operated the same as No. 154, page 21, except the track is dropped down in front of door, reducing the amount of head-room required.

This type has but one fusible link, which is exposed in the opening.

Price List for Hardware— Doors extra

The following price list includes non-adjustable hangers, track and fixtures complete for door when used on one side of wall only. If doors are to be used on both sides of wall, double sets will be required and the price will be doubled. Fixtures packed complete with all bolts and screws for attaching parts to door, heavy cast washers for wall bolts and necessary counter balance weights.



Wall bolts are not included, but will be furnished at moderate price if thickness of wall is given.

Width of Opening with 1 pr. Hangers			* Width of Opening with 1 $\frac{1}{2}$ pr. Hangers		
	Price List	Weight per Set lbs.		Price List	Weight per Set lbs.
3 feet.....	\$23.70	211	6 $\frac{1}{2}$ feet.....	\$32.35	299
3 $\frac{1}{2}$ feet.....	24.30	217	7 feet.....	32.90	304
4 feet.....	24.80	227	7 $\frac{1}{2}$ feet.....	33.45	310
4 $\frac{1}{2}$ feet.....	25.35	235	8 feet.....	36.55	344
5 feet.....	27.15	250	8 $\frac{1}{2}$ feet.....	37.15	350
5 $\frac{1}{2}$ feet.....	29.00	268	9 feet.....	37.70	377
6 feet.....	29.65	278	9 $\frac{1}{2}$ feet.....	39.05	383
			10 feet.....	40.30	388

* For openings, not doors, over six feet wide, Underwriters require three hangers.

Discount.....

Directions for Ordering—See page 34 and give all **dimensions** asked for and sketch showing location of obstructions overhead and state amount of head-room above top of opening.

Note—This fixture requires 9 inches of head-room. Can furnish for head-room as low as 7 $\frac{1}{2}$ inches on application. Side-wall room required on side toward which door slides in closing 19 inches and on opposite side the width of opening plus 19 inches.

To determine length of track, double width of opening and add 29 inches.

Tin-clad doors described on page 15.

No. 157 Willis Fire Door and Flat Track Vertical Sliding Fixtures

FIXTURES MADE REGULARLY FOR THREE-PLY (2 $\frac{3}{8}$ -INCH) DOORS, BUT CAN BE FURNISHED FOR TWO-PLY (1 $\frac{3}{4}$ -INCH) DOORS

This type of fixture is recommended only for openings where slide or swing fixtures cannot be used on account of obstructions. The vertical balance fire-doors and fixtures are made to act by gravity and close automatically at the approach of fire. Two sets of weights are used on doors weighing up to 300 pounds; three sets on doors weighing more than 300 pounds. As shown in the illustration, the fusible link is in the circuit which supports the light weight. Heavy counter-balance weights are attached by wire cable to the top of door, and are adjusted to prevent sudden dropping of the door, allowing same to close slowly when link fuses, which releases the small weights. Illustration shows fixtures for doors weighing up to 300 pounds. The same fixtures are furnished for doors weighing over 300 pounds, except an extra set of cable pulleys, weights, cable and cable brackets are added as shown on page 24.

Price List for Hardware—Doors Extra

The following price list includes guides, track and fixtures complete with all bolts and screws for attaching parts to door, drop washers for track and heavy cast washers for wall bolts.

Counter-balance Weights are not included in Price List nor Schedule for Weight of Fixtures.

Wall bolts are not included, but will be furnished at moderate price if thickness of wall is given.



Height of Opening	Doors up to 300 pounds		Doors over 300 pounds	
	Price List	Weight, Lbs.	Price List	Weight, Lbs.
5 feet.....	\$28.05	220	\$37.90	260
6 feet.....	30.10	245	40.20	285
7 feet.....	32.15	272	42.50	312
8 feet.....	34.20	300	44.85	340
9 feet.....	36.25	329	47.15	370
10 feet.....	38.30	360	49.45	405

Discount.....

Directions for Ordering—See page 34 and give all dimensions asked for.

Note—This fixture requires double the height of opening plus 19 inches of head-room. Weight of door governs amount of weights necessary to balance same. Heavy weights should be specified equal to seven-eighths weight of door and small counter-balance weights to one-eighth weight of door. This fixture requires on doors less than 300 lbs, 15 and 21 inches of side-wall room; over 300 lbs., 21 and 28 inches.

A complete description of standard approved and labelled tin-clad doors will be found on page 15.



No. 169 Willis Fire Door and Round Track Vertical Sliding Fixtures

FIXTURES MADE ONLY FOR THREE-PLY (25/8-INCH) DOORS

This type of fixture is used for openings where obstructions do not permit the use of slide or swing fixtures.

Fixtures are the same as shown on page 23, except that round track and guides are used.

Illustration shows fixtures for door weighing more than 300 pounds.

On account of the necessity of heavy weights to balance vertical doors, the hardware must be made extra heavy, and the fixtures, therefore, much more expensive than for the ordinary sliding or swing fire-doors.

Price List for Hardware—Doors will be extra

The following price list includes guides, track and fixtures complete with all bolts and screws for attaching parts to door, drop washers for track and heavy cast washers for wall bolts.

Counter-balance Weights are not included in Price List or Schedule for Weight of Fixtures.

Wall bolts are not included, but will be furnished at moderate price if thickness of wall is given.



Height of Opening	Doors up to 300 pounds		Doors over 300 pounds	
	Price List	Weight, Lbs.	Price List	Weight, Lbs.
5 feet.....	\$28.05	175	\$37.90	215
6 feet.....	30.10	200	40.20	240
7 feet.....	32.15	227	42.50	267
8 feet.....	34.20	255	44.85	295
9 feet.....	36.25	284	47.15	325
10 feet.....	38.30	315	49.45	360

Discount.....

Directions for Ordering—See page 34 and give all dimensions asked for.

Note—This fixture requires double the height of opening plus 19 inches of head-room. Weight of door governs amount of weights necessary to balance same. Heavy weights should be specified equal to seven-eighth weight of door and small counter-balance weights to one-eighth weight of door. This fixture requires on doors less than 300lbs., 16 and 22 inches of side-wall room; over 300 lbs., 22 and 29 inches.

See page 15 for complete description of standard approved and labeled tin-clad doors.



No. 142 Willis Round Track Horizontal Fire and Warehouse Door and Fixtures

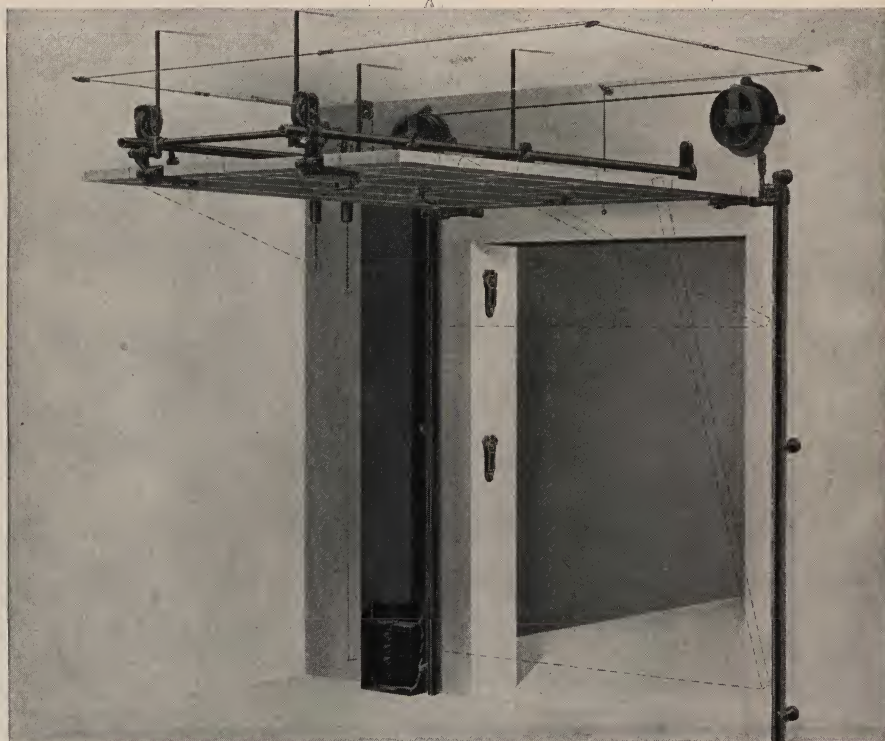
FIXTURES FOR THREE-PLY (2½-INCH) OR TWO-PLY (1¾-INCH) DOORS

Horizontal Trolley Door meets a long-felt want for a practical warehouse and fire door. This door is applicable to openings of all kinds, but is especially adapted for use where ceilings prevent the use of a vertical door, and where obstructions at the side of the opening prohibit the use of the ordinary sliding door. The Horizontal Door, when open, is entirely out of the way. When used as a Fire Door, it is equipped with our automatic closing device.

Price list for Hardware—Doors are additional.

The following price list includes hangers, track, fixtures and counter-balance weights complete for the different openings listed, in the non-automatic type for warehouse doors. These prices are based on openings having sufficient head-room and side-wall space, so it is not necessary to compound counter-balance weights. Fixtures packed complete with all bolts and screws for attaching parts to door and heavy cast washers for wall bolts.

Wall bolts are not included, but will be furnished at moderate price if thickness of wall is given.



Size of Opening Feet	Space required above opening without compounding weights, Inches	Price List	Size of Opening Feet	Space required above opening without compounding weights, Inches	Price List
4x7	30	\$48.00	4x 9	35	\$51.25
5x7	34	49.90	5x 9	39	53.75
6x7	37	51.80	6x 9	43½	56.25
7x7	40½	53.70	7x 9	47½	58.75
8x7	44	55.60	8x 9	52	61.25
9x7	47	57.50	9x 9	56	63.25
10x7	50½	59.30	10x 9	60½	66.25
4x8	33	49.00	4x10	37	52.25
5x8	36½	51.20	5x10	41½	55.05
6x8	40½	53.40	6x10	46	57.85
7x8	44	55.60	7x10	51	60.65
8x8	47½	57.80	8x10	56	63.45
9x8	51½	60.00	9x10	60½	66.25
10x8	55	62.20	10x10	65	69.05

Discount.....

Note—When above fixtures are required for fire doors, add \$3.00 per set to net price.

Note—Head-room given in table above applies to three-ply 2½-inch, tin-clad doors.

Directions for Ordering—State width and height of opening (mention width first), thickness of doors, lap of doors at side and top, available wall space at both sides and above opening; if doors are located in outside walls or partition walls, also if locks are to be operated from one side or both sides of door.

State if hanger rods for horizontal track are to be attached to roof, ceiling or beams, giving distance from top of door to supporting members and show location of joist or beams, if hanger rod is to be attached to beams. If to be attached to roof, describe same, stating thickness and material from which it is built. If to be attached to concrete floors above, state thickness of same.

State if fixtures are for warehouse or fire doors.

For weights of standard tin-clad fire doors, see page 15.

Note—On warehouse door, side-wall space required equals lap of door plus 5½ inches one side and lap of door plus 16 inches on weight side when not necessary to compound weights; on fire doors same as above, except on weight side 27 inches are required for the automatics.

When there is insufficient space above the opening as shown in the second column of the table above, it is necessary to compound the weights, in which case the exact condition should be submitted to our Engineering Department showing actual available space on both sides and above the opening. Special fixtures can be made to meet most requirements.



No. 170 Willis Automatic Swinging Fire Door Fixtures and Tin Clad Single Doors

INSPECTED BY UNDERWRITERS' LABORATORIES (INC.), UNDER DIRECTION OF THE NATIONAL BOARD OF FIRE UNDERWRITERS



The above illustrated swing door Hardware included in list of Fire Door Hardware approved and labelled by National Board of Fire Underwriters after exhaustive tests by the Underwriters' Laboratories (Inc.)

The automatic link and cord arrangement on this fixture extends above the opening to ceiling and when used with doors on both sides of wall same extends through, so that the fusing of link on either side will cause the doors to close. Fixtures furnished for either flush or lap doors.

Price List for Hardware—Doors are Additional

The following price list includes a set of fixtures complete consisting of multiple pintels, multiple latches, multiple latch keepers, hinge straps, handles, automatic closing attachments, all bolts (except pintel and keeper bolts) for attaching hardware and heavy washers for multiple pintels and latch keeper.

Wall bolts for multiple pintels and latch keepers will be furnished at a moderate price, if thickness of wall is given. State if doors are used on one or both sides of wall.

No. 170 Fixtures complete, for doors up to 5 ft. 9 in. high, (with 2 hinges), per set.....	\$17.00
No. 170 Fixtures complete, for doors 5 ft. 10 in. to 8 ft. 9 in. high, (with 3 hinges), per set.....	20.00
No. 170 Fixtures complete, for doors 8 ft. 10 in. to 10 ft. 4 in. high, (with 4 hinges), per set.....	24.00
No. 170 Fixtures less hinges, pintels and latch, per set.....	8.00

Weight—Complete set, about 105 pounds; fixtures only, 70 pounds.

Discount.....

Directions for Ordering—See page 34 and give all dimensions asked for.

Unless otherwise specified on order, fixtures complete will be sent for 2½-inch lap doors.

Note—This fixture requires 9 inches of head-room above top of door and 11 inches of side-wall space beyond door on hinge side and 3½ inches on latch side.

See page 15 for complete description of standard approved and labeled tin-clad fire doors.

See page 28 for a fixture of this type that is not labeled by the Laboratories.

No. 171 Willis Automatic Swinging Fire Door Fixtures and Tin Clad Double Doors

INSPECTED BY UNDERWRITERS' LABORATORIES (INC.), UNDER DIRECTION OF THE NATIONAL BOARD OF FIRE UNDERWRITERS



The above illustrated swing door Hardware included in list of Fire Door Hardware approved and labeled by National Board of Fire Underwriters after exhaustive tests by the Underwriters' Laboratories (Inc.)

The automatic link and cord arrangement of this fixture extends above the opening to ceiling and when used with doors on both sides of wall same extends through, so that the fusing of link on either side will cause the doors to close. Fixtures furnished for either flush or lap doors.

Price List for Hardware—Doors are Additional

The following price list includes a set of fixtures complete, consisting of multiple pintels, multiple latches, multiple latch keepers, hinge straps, handles, automatic closing attachments, all bolts (except pintel bolts) for attaching hardware and heavy cast washers for multiple pintels.

Wall bolts for multiple pintels will be furnished at a moderate price, if thickness of wall is given. State if doors are used on one or both sides of wall.

No. 171 Fixtures complete, for doors up to 5 ft. 9 in. high, (with 4 hinges), per set.....	\$35.00
No. 171 Fixtures complete, for doors 5 ft. 10 in. to 8 ft. 9 in. high, (with 6 hinges), per set.....	39.00
No. 171 Fixtures complete, for doors 8 ft. 10 in. to 10 ft. 4 in. high, (with 8 hinges), per set.....	44.00
No. 171 Fixtures complete, less hinges, pintels and latch, per set.....	18.00

Weight—Complete set, about 180 pounds; fixtures only, 100 pounds.

Discount.....

Directions for Ordering—See page 34 and give all dimensions asked for.

Unless otherwise specified on order, fixtures complete will be sent for 2½-inch lap doors, with Standing Door Bolt for Partition Walls.

Note—This fixture requires 10 inches of head-room above top of door and 11 inches of side-wall space on each side of door.

Labeled doors are described on page 15.

See page 29 for a fixture of this type that does not bear the Underwriters' label.



No. 164 Willis Automatic Swinging Fire Door Fixtures and Tin Clad Single Doors



The above illustrated swing door hardware designed to meet the demand for a less expensive outfit than the Approved Labeled No. 170 Fixture illustrated on page 26.

This fixture will meet the requirements of Underwriters in certain territories.

The automatic link and cord arrangement on this fixture extends above the opening to ceiling and when used with doors on both sides of wall same extends through, so that the fusing of link on either side will cause the doors to close. When link fuses at 160 degrees Fahrenheit it releases the heavy weight, which drops onto the small weight and closes the door. The small weight merely maintains tension of chain. Fixtures furnished for either flush or lap doors.

Price List for Hardware—Doors are Additional

The following price list includes a set of fixtures complete, consisting of pintels, latches, latch keepers, hinge straps, automatic closing attachment, all bolts (except pintel bolts) for attaching hardware and heavy cast washers for pintels and latch keepers.

Wall bolts for pintels will be furnished at a moderate price if thickness of wall is given. State if doors are used on one or both sides of wall.

No. 164 Fixtures complete, for doors up to 7 ft. 3 in. high, (with 2 hinges), per set.....	\$16.00
No. 164 Fixtures complete, for doors 7 ft. 4 in. to 8 ft. 3 in. high, (with 3 hinges), per set.....	17.50
No. 164 Fixtures complete, for doors 8 ft. 4 in. to 10 ft. 3 in. high, (with 4 hinges), per set.....	19.00
No. 164 Fixtures, less hinges and pintels, per set.....	12.75
No. 164 Fixtures, less hinges, pintels and triple latch, per set.....	7.75

Weight—Complete set, about 90 pounds; fixtures only, 60 pounds

Discount.....

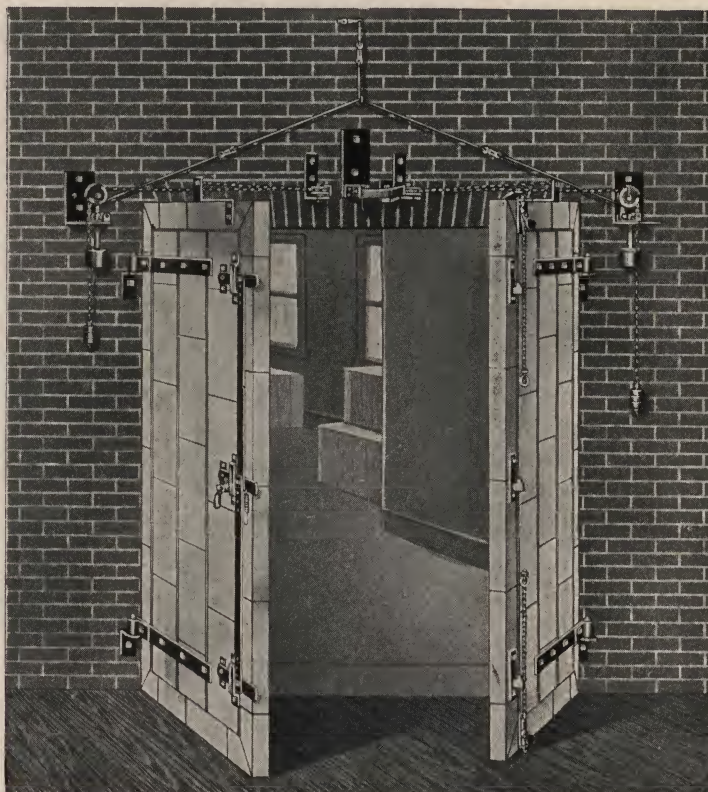
Directions for Ordering—See page 34 and give all dimensions asked for.

Unless otherwise specified on order, fixtures complete will be sent for lap doors up to 7 ft. 3 in. high and 2½ inches thick.

Note—This fixture requires 9 inches of head-room above top of door and 10 inches of side-wall space beyond door on hinge side and 3½ inches on latch side.

For complete description of standard approved and labeled tin-clad doors see page 15.

No. 165 Willis Automatic Swinging Fire Door Fixtures and Tin Clad Double Doors



The above illustrated swing door hardware designed to meet the demand for a less expensive outfit than the Approved Labeled No. 171 Fixture illustrated on page 27.

This fixture will meet the requirements of Underwriters in certain territories.

The automatic link and cord arrangement on this fixture operates in the same manner as No. 164, illustrated on opposite page. The fixtures are so constructed that it is impossible for the wrong door to close first. Fixtures furnished for either flush or lap doors.

Price List for Hardware—Doors are Additional

The following price list includes a set of fixtures complete, consisting of pintels, latches, latch keepers, hinge straps, automatic closing attachment, all bolts (except pintel bolts) for attaching hardware and heavy cast washers for pintels.

Wall bolts for pintels will be furnished at a moderate price if thickness of wall is given. State if doors are used on one or both sides of wall.

No. 165 Fixtures complete, for doors up to 7 ft. 3 in. high, (with 4 hinges), per set.....	\$29.00
No. 165 Fixtures complete, for doors 7 ft. 4 in. to 8 ft. 3 in. high, (with 6 hinges), per set.....	32.00
No. 165 Fixtures complete, for doors 8 ft. 4 in. to 10 ft. 3 in. high, (with 8 hinges), per set.....	35.00
No. 165 Fixtures, less hinges and pintels, per set.....	23.00
No. 165 Fixtures, less hinges, pintels and triple latch, per set.....	18.00

Weight—Complete set, about 155 pounds; fixtures only, 100 pounds.

Discount.....

Directions for Ordering—See page 34 and give all dimensions asked for.

Unless otherwise specified on order, fixtures complete will be sent for lap doors up to 7 ft. 3 in. high and 2½ inches thick.

Note—This fixture requires 10 inches of head-room above top of door and 10 inches of side-wall space on each side of door.

For complete description of standard approved and labeled tin-clad doors see page 15.



No. 158 Willis Automatic Swinging Fire Door Fixtures and Tin Clad Single Doors



The above illustrated swing door hardware is designed to meet the demand for an inexpensive outfit and will meet the requirements of Underwriters in certain territories.

This fixture is particularly adaptable where conditions do not permit the attaching of pulleys on the wall on account of insufficient head-room and lack of space between door and adjoining wall. When link fuses at 160 degrees Fahrenheit it releases the heavy weight, which drops onto the small weight and closes the door. The small weight merely maintains tension of chain.

To conform strictly to Underwriters' requirements, triple bar latch is always furnished. *Single bar latch can be furnished on application. Fixtures furnished for either flush or lap doors.

Price List for Hardware—Doors are Additional

The following price list includes a set of fixtures complete, consisting of pintels, latches, latch keepers, hinge straps, automatic closing attachment, all bolts (except pintel bolts) for attaching hardware and heavy cast washers for pintels and latch keepers.

Wall bolts for pintels will be furnished at a moderate price if thickness of wall is given. State if doors are used on one or both sides of wall.

No. 158 Fixtures complete, for door up to 7 ft. 3 in. high, (with 2 hinges), per set.....	\$12.00
No. 158 Fixtures complete, for doors 7 ft. 4 in. to 8 ft. 3 in. high, (with 3 hinges), per set.....	14.00
No. 158 Fixtures complete, for doors 8 ft. 4 in. to 10 ft. 3 in. high, (with 4 hinges), per set.....	16.00
No. 158 Fixtures, less hinges and pintels, per set.....	9.00
No. 158 Fixtures, less hinges, pintels and triple latch, per set.....	4.00

Discount.....

* If single bar latch is desired instead of triple latch, deduct \$4.00 from list price of fixtures complete.

Weight—Complete set, about 80 pounds; fixtures only, 50 pounds.

Directions for Ordering—See page 34 and give all **dimensions** asked for.

Unless otherwise specified on order, fixtures complete will be sent for lap doors up to 7 ft. 3 in. high and 2¾ inches thick.

Note—This fixture requires no head-room above top of door and only 3½ inches of side-wall space on each side of door.

Standard tin-clad approved and labeled doors are fully described on page 15.



No. 166 Willis Automatic Swinging Fire Door Fixtures and Tin Clad Double Doors

The above illustrated swing door hardware is designed to meet the demand for an inexpensive outfit and will meet the requirements of Underwriters in certain territories.

This fixture is particularly adaptable where conditions do not permit the attaching of pulleys on the wall on account of insufficient head-room and lack of space between door and adjoining wall. The automatic link and cord arrangement are the same as No. 158, illustrated on opposite page, excepting that it is for double doors. Fixture is so constructed that it is impossible for the wrong door to close first. To conform strictly to Underwriters' requirements, triple bar latch is always furnished.

* Single bar latch can be furnished on application. Fixtures furnished for either flush or lap doors.



Price List for Hardware—Doors are Additional

The following price list includes a set of fixtures complete, consisting of pintels, latches, latch keepers, hinge straps, automatic closing attachment, all bolts (except pintel bolts) for attaching hardware and heavy cast washers for pintels and latch keepers.

Wall bolts for pintels will be furnished at a moderate price if thickness of wall is given. State if doors are used on one or both sides of wall.

No. 166 Fixtures complete, for doors up to 7 ft. 3 in. high, (with 4 hinges), per set.....	\$25.00
No. 166..Fixtures complete, for doors 7 ft. 4 in. to 8 ft. 3 in. high, (with 6 hinges), per set.....	27.50
No. 166 Fixtures complete, for doors 8 ft. 4 in. to 10 ft. 3 in. high, (with 8 hinges), per set.....	30.00
No. 166 Fixtures, less hinges and pintels, per set.....	20.00
No. 166 Fixtures, less hinges, pintels and triple latch, er set.....	15.00

Discount.....

* If single bar latch is desired instead of triple latch, deduct \$4.00 from list price of fixtures complete.

Weight—Complete set, about 110 pounds; fixtures only, 60 pounds.

Directions for Ordering—See page 34, and give all **dimensions** asked for. Unless otherwise specified on order, fixtures complete will be sent for lap doors up to 7 ft. 3 in. high and 2½ inches thick.

Note—This fixture requires 3½ inches head-room above top of door and only 3½ inches of side-wall space on each side of door.

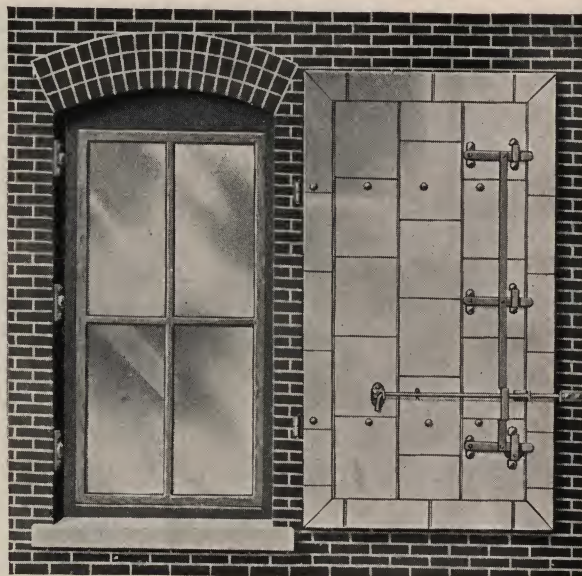
Standard tin-clad approved and labeled doors are fully described on page 15.



No. 160 Willis Swinging Fire Shutter Fixtures for Single Tin Clad Shutters

Fire Shutters are one of the greatest protections against fire that can be applied to a building, and all buildings within the reach of a possible fire from other buildings should be equipped with fire shutters. These fixtures designed to meet the requirements of Underwriters, for protecting window openings.

For Price List, see table below.



No. 160

No. 159 Willis Swinging Fire Shutter Fixtures for Double Tin Clad Shutters

The following price lists are for the fixtures only. The tin-clad shutters are additional.



No. 159

The following price list includes a set of fixtures complete, consisting of hinges, pintels, latches, latch keepers, hinge straps and all bolts (except pintel bolts) for attaching hardware to shutter.

Wall bolts for pintels will be furnished at a moderate price if thickness of wall is given.

	No. 160	No. 159
Fixtures complete, for shutters up to 7 feet, 3 in. high (with double latch), per set.....	\$6.50	\$10.80
Fixtures complete, for shutters 7 ft. 4 in. to 8 ft. 3 in. high (with triple latch), per set.....	8.90	14.25
Discount.....		

Note—Underwriters require three hinges on shutters over 7 ft. 4 in. in height and to cover three-fourths of the width of each shutter.

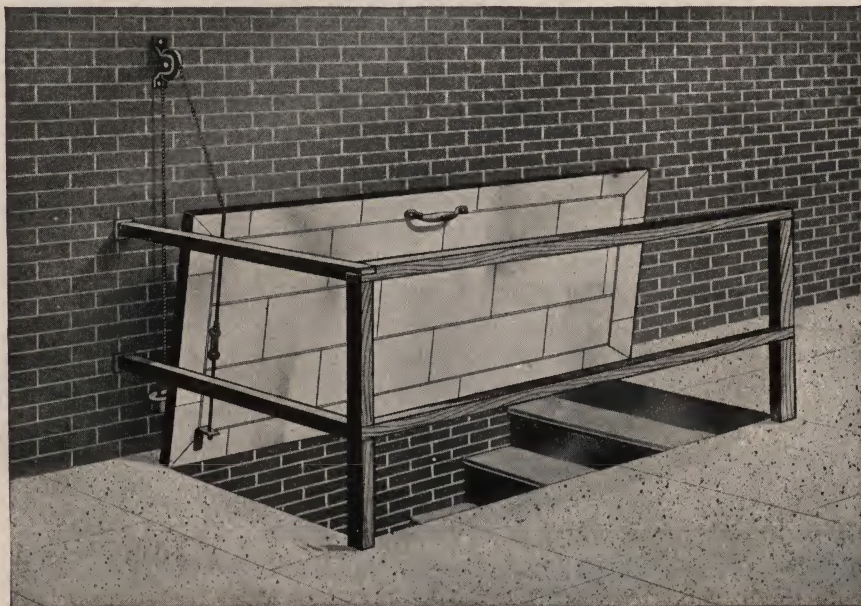
Weights—No. 159 complete, with double latch, about 60 pounds; with triple latch, 65 pounds. No. 160 complete with double latch, about 45 pounds; with triple latch, 50 pounds.

Directions for Ordering—See page 34, and give all dimensions asked for.

Note—Unless otherwise specified on order, fixtures complete will be sent for lap shutters up to 7 ft. 3 in. high and 1¾ inches thick.

See page 15 for description of standard approved and labeled tin-clad shutters.

No. 167 Willis Automatic Trap Fire Door and Fixtures



This fixture specified and endorsed by Underwriters, is applicable to trap fire doors. When open, the door is counter-balanced by the weight and when link fuses door closes by gravity.

The arrangement shown in cut is suitable for ordinary doors, but for heavy doors a double pulley and an extra set of balance weights should be used, as the link would not sustain the entire weight. Twelve pounds of weights furnished with single pulley sets; twenty-one pounds with double pulley sets. Weight of fixtures, per set, single, twenty-two pounds; double, thirty-seven pounds.

Price List for Hardware—Doors are Additional

The following price list includes a set of fixtures complete, consisting of rope, pulleys, weights, sash cord and all bolts for attaching hardware to door and wall.

Hinges are not included, but will be furnished at a moderate price if width and thickness of door is given and the material of which same is constructed.

No. 167 Fixtures complete, with single pulley, (less hinges), per set.....	\$4.10
No. 167 Fixtures complete, with double pulley, (less hinges), per set.....	5.50

Discount.....

Directions for Ordering—State width, length and thickness of door, also material of which same is constructed, and weight if we are to furnish fixture only.

When hinges are desired, give above dimensions and state if same are to be attached to floor or side wall, and in either case the material of which same is constructed.

Note—Unless otherwise specified on order, fixtures complete will be sent with a single pulley.

See page 15 for complete description of standard approved and labeled tin-clad doors.

We can furnish standard labeled fusible links at the regular market prices.



Fire Door Hardware

Where mentioned in the following pages that hardware is approved, same will be found included in the list of fire-door hardware examined under standard requirements of the National Board of Fire Underwriters, after exhaustive investigation by the Underwriters' Laboratories (Inc.), and approved for use. These fixtures bear their label and are made in accordance with their rules governing the various types of standard equipment. We can also furnish hardware to meet special requirements, prices of which will be quoted on application.

DIRECTIONS FOR ORDERING

Sliding Door Fixtures—In ordering state:

First—Number of openings and number of doors; whether doors are on one side or both sides of wall. If latter, mention if fixtures can be bolted together and state thickness of wall. Do not say **doors** when you mean **openings**, as doors must lap four inches on each side and at top.

Second—Width and height of opening, (mention width first).

Third—Thickness of doors, if two-ply ($1\frac{3}{4}$ inches), or three-ply ($2\frac{5}{8}$ inches).

Fourth—Thickness of wall, when wall bolts are required, or when doors are used on both sides of wall, in which case special U wall plates are required for guide rollers.

Fifth—Distance from edge of opening to wall at right angles, if any, to provide for sufficient space for wall binders. State distances from highest points of openings to nearest obstructions overhead.

Sixth—If opening is square or arched top.

Note—Wall bolts are not furnished unless specified. List prices are based on width of openings, not doors. Necessary counter-balance weights are included in all sets.

Swinging Door Fixtures—In ordering state: (Note—Size of opening is always required).

First—If doors or shutters are tin-clad or steel.

Second—Width of openings and height, if doors or shutters are single or double, and thickness, two-ply ($1\frac{3}{4}$ inches), or three-ply ($2\frac{5}{8}$ inches).

Third—Whether flush with wall or overlap, and if angle iron or rabbetted frames are used for flush doors. (See page 35 and door plans given below for different types of frames).

Fourth—If opening is square or arched top.

Note—Unless specified on order, fixtures complete with hinges, pintels and triple latches will be sent for three-ply ($2\frac{5}{8}$ -inch) doors, and two-ply ($1\frac{3}{4}$ -inch) shutters of Lap type.

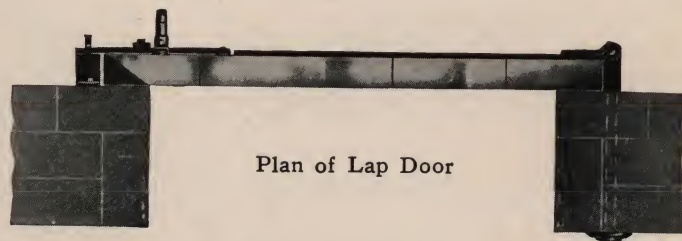
Vertical Sliding Door Fixtures—In ordering state:

Information asked for under sliding door fixtures, first, second, third, fourth and sixth paragraphs. Always state amount of wall room on each side of opening.

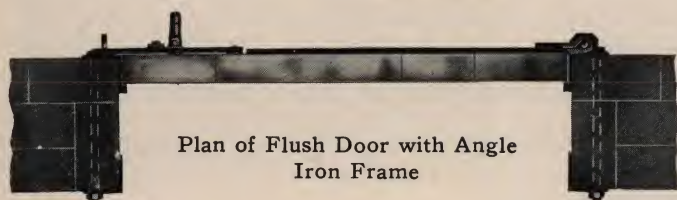
Note—Counter-balance weights are not included in list prices of fixtures.

Sectional Views of Over-Lap, Flush and Rabbetted Flush Tin Clad Doors

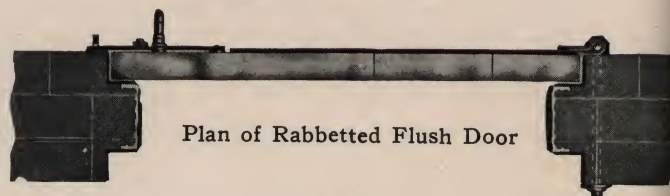
UNLESS OTHERWISE SPECIFIED IT IS UNDERSTOOD THAT DOORS ARE $2\frac{5}{8}$ INCHES THICK



Plan of Lap Door



Plan of Flush Door with Angle
Iron Frame



Plan of Rabbetted Flush Door



Style No. 172



Style No. 173



Style No. 174

Fire Door Frames

This department is completely equipped for manufacturing fire door frames.

Any structural iron member can be employed to cover your needs. If the requirements are from architects' plans, submit us their drawings. At any time you desire recommendations of our own we ask that you describe the conditions and we will gladly quote prices on the recommendations we make in an endeavor to overcome the conditions with what we believe to be the most economical arrangement. Angles and channels are the most commonly employed members. We also construct plank frames, rabbetted and plain, metal covered. Anchors may be band iron, bolts or expansion bolts.

On this page we show engravings taken from manufacture. They are not put forth here except to call your attention to this department.

The thickness of the wall, the thickness of the door, whether doors are singly or in pairs, the size of brick opening or size of doors and the kind of part to be employed or the preferred part are the essentials to transmit as information on which to base an estimate.

Please bear in mind that if the brick openings are all ready built, that this is important unless the frame is to be some smaller and the balance of the opening bricked after arrival of equipment. If the frame is intended to fill opening it may be necessary to attach with expansion bolts or when desirable drill the wall for through bolts.

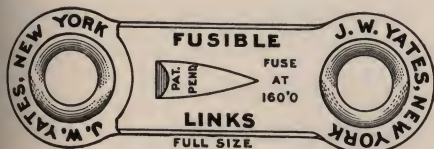
When submitting us specifications for doors, hardware and frames do not use this section for the description of more than the frames. Refer to pages 15 to 34 for the doors and hardware.

Fusible Links

No. 109 Fusible Links.....\$.50

These fusible links are used on fire proof windows and with door hardware and are adapted to these purposes. The fusing point is 160 degrees Fahrenheit.

Quantity prices on receipt of specifications.



No. 109



Willis Skylights

PERFECT LIGHT AND VENTILATION

We manufacture from any kind of sheet metal obtainable.

All our manufacture is water tight, without the use of putty. Putty can be used when the small amount of dust that might be blown into the building would be objectionable.

Any of our standard skylights can be erected by a "handyman" with a hammer and screw-driver as his only tools.

Our skylights are provided with condensation gutters on all bars and at the eave and are guaranteed not to leak. All are manufactured in a knock-down form for shipment, but have been erected complete at the factory before being made ready for shipment. The construction is designed to give the largest possible glass area and yet we have not sacrificed strength. The designing on all styles is such that it is impossible for any part to buckle, sag or bend. In our standards we reinforce the bars if their size demands this precaution. From past experience we do not find any of the sizes listed in this catalog demanding these reinforcements. Therefore should your plans and specifications require reinforced members, kindly submit your requirements and we will quote net prices.

We wish to call your attention to the fact that our equipment is so very complete that we feel sure of our ability to furnish you with any requirement whatsoever. We construct skylights to detail, having either band or tee iron reinforcements or without either, being in plain sheet metal.

We do not furnish the wood curbs that are attached to the roof sheathing. The curbs on all styles except No. 50S and No. 90S are built up from the roof sheathing to be level on top. The curbs for No. 50S and No. 90S are to be built to any pitch you may desire, usually they are constructed to the same pitch as the roof to which applied.

Please note that all skylights, as to their sizes, are spoken of as outside curb measurements which should be over the roofing material flashed up even with the top edge of the curb. The curbs are usually built up to be at least six inches high on the upper or top side. When curbs are properly constructed and flashed you can quickly complete the job by placing the skylights, which are built with an apron that counter-flashes the curb.

We construct skylights any size outside curb measurements and it is therefore not necessary to confine yourself to sizes we list.

All glass is cut to size and packed separately, for shipment. We strongly recommend the use of RIBBED WIRE glass, because it is fire-proof and even though it may be badly broken it will not fall from its place in the frame, leaving an opening for the weather to enter.

Photographers' Skylights

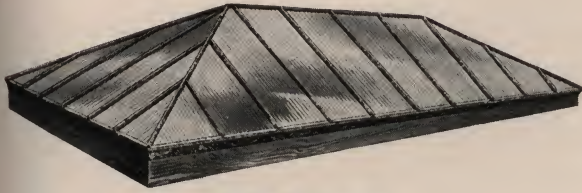
This is one of our specialties and we have constructed a great number, which have always proven satisfactory to the artist.

We quote on these only after having ascertained the requirements which usually are to overcome some special building construction. We gladly furnish full sized details of the proposed construction and they will show the carpenter work required. We do not include wood-work except by special agreement.

The best artists are using ground glass, as it gives a smooth, clear light that is the best adapted to their work.



Willis Hipped Skylight



Style No. 10S

Style No. 10S. This is a very popular style where light but no ventilation is required. It is easily adapted to the largest size, with or without reinforcements. A very small amount of curb bracing would be required in the largest sizes.

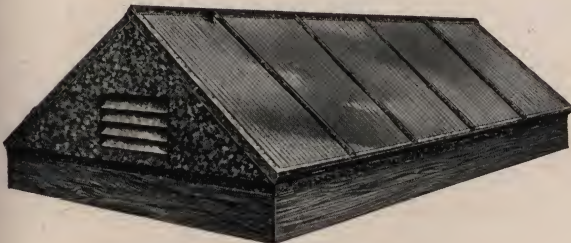
Willis Hipped Skylight and Ventilator



Style No. 20S

Style No. 20S. This is the same skylight as the one shown above with the addition of a ventilator, which is so constructed and set in place that it is absolutely water-tight. Pivoted metal dampers will be included with these ventilators, so hung that normally they will be closed.

Willis Double Pitch Skylight with Louvre Ventilators

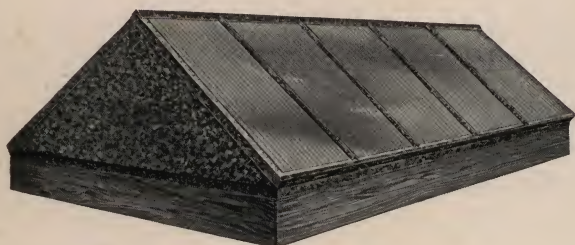


Style No. 30S

Style No. 30S. The construction of this skylight is of the same general detail as the others. All parts are quickly and easily assembled to make a complete job. The construction of the ventilator in the gable ends is of movable parts to open and close at will. A ventilator can be installed on the ridge same as the style above.



Willis Double Pitch Skylight



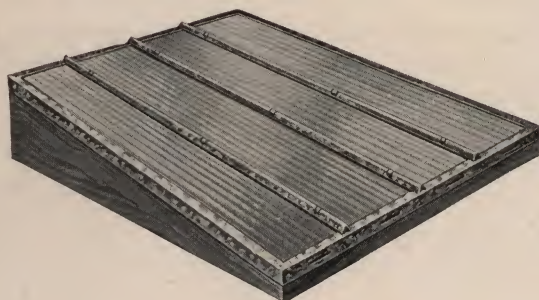
Style No. 40S

We do not recommend trying to operate sections larger than 30 in. x 48 in. Prices on this construction will be quoted on application.

Style No. 40S. This style is the same as the one shown on page 37 except it is not equipped with the ventilator in the gable ends.

This style can be built to hinge the sections each side of ridge bar by reinforcing the ridge and attaching the hinges thereto and these sections can be raised with the lifter shown with No. 90S. One side only or a single light can be arranged to operate as described.

Willis Single Pitch Skylight

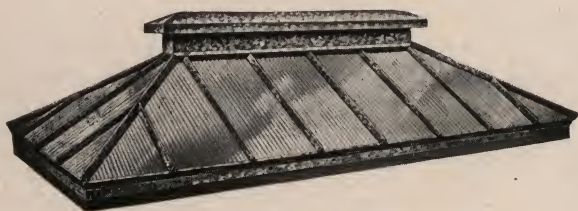


Style No. 50S

Style No. 50S. In placing an order for this style it is very important that you specify which measurement will denote the length of glass. If possible send rough pencil sketch.

This style is also used as a continuous skylight for factory building work. When wanted as a scuttle we refer you to Style No. 90S. We can furnish this with hinges attached, but without a lifter and will quote prices on application.

Willis Hipped Skylight with Ridge Ventilator



Style No. 60S

Style No. 60S. This style is the same as Style No. 20S except in the style of ventilator that we provide on the ridge. Whenever the curb for skylight is square we furnish the No. 20S style.

We manufacture skylights in any kind of metal produced. The standard on which we base our lists is No. 26 gauge open hearth steel.

Skylight guards are shown and described on page 46.

Willis Hipped Turret Skylight with Pivoted Side Sash

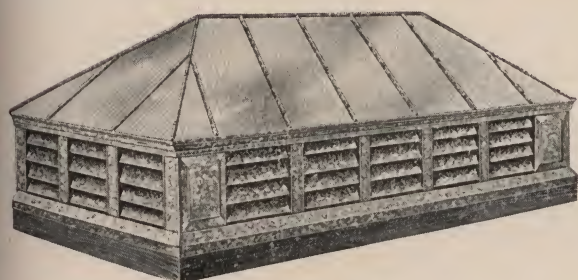


Style No. 70S

Style No. 70S. This style has met with such universal favor that we believe it has the very best features that can be combined in a skylight and ventilator.

The side sash as we make them are operated in batteries, by a mechanical device of our own, by pulling a chain or cord operating over a pulley. The sash when closed are locked and can be held open at any point. The sash can be made to operate singly if desired.

Willis Hipped Turret Skylight with Stationary Louvre Ventilators

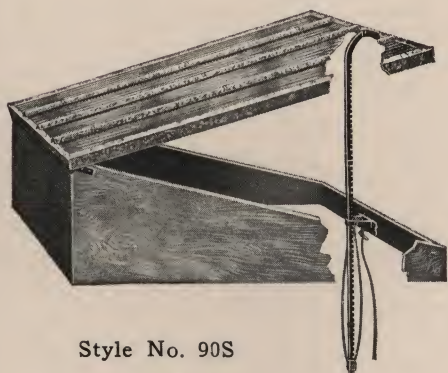


Style No. 80S

Style No. 80S. This style is practically the same as the one shown above, substituting stationary louvres for the pivoted sash. These louvres are backed up with galvanized wire mesh cloth to keep out birds and like animals. The construction of the louvres is such as makes them waterproof, excluding rain or snow.

If desired, we can arrange any of the louvred units to solid metal or glass panels.

Willis Single Pitch Skylight as Scuttle and Ventilator with Lifter and Hinges



Style No. 90S

Style No. 90S. This style is used where light and ventilation is to be combined with the very minimum of expense. It is the very best arrangement when used as a scuttle combining light therewith. It very often is the case that the approach to a scuttle is the darkest place in a building and this arrangement will relieve such a condition.

Whether closed or open the lifter is self-locking and is constructed to operate from the floor.

We do not recommend operating more than 24 square feet with this device. When the skylight contains more we arrange one or two lights of glass to open out of the skylight frame.

SKYLIGHTS—Continued

PRICE LIST—All Styles With 3-16 in. Ribbed Glass cut to size and packed in separate crate

Size of Curb Outside	Style 10s	Style 20s	Style 30s	Style 40s	Style 50s	Style 60s	Style 70s	Style 80s	Style 90s
2x2	\$ 7.50	\$10.00	\$ 7.50	\$ 5.00	\$ 3.50	\$10.00	\$23.50	\$16.50	\$ 8.50
2x3	9.50	12.00	9.00	6.50	5.00	12.00	28.50	20.00	10.00
2x4	11.50	14.00	10.50	8.00	6.00	14.00	35.50	24.00	11.25
2x6	14.00	16.50	13.00	10.50	8.50	16.50	42.00	27.00	14.00
3x3	13.00	15.50	11.50	9.00	7.00	15.50	35.00	25.00	12.50
3x4	15.00	17.50	13.00	10.50	8.50	17.50	40.00	28.50	14.00
3x5	17.00	19.50	14.50	12.00	10.00	19.50	45.00	32.00	16.00
3x6	18.50	21.00	16.50	14.00	11.00	21.00	49.50	35.00	17.00
3x8	22.00	24.50	19.50	17.00	13.00	24.50	59.00	42.00	19.00
4x4	18.50	21.50	16.00	13.00	10.00	21.50	46.50	32.50	16.00
4x5	21.50	24.50	18.00	15.00	12.00	24.50	52.00	37.50	18.00
4x6	24.00	27.00	20.50	17.50	14.00	27.00	58.00	41.50	20.00
4x7	27.00	30.00	23.50	20.50	16.00	30.00	64.00	46.00	24.50
4x8	29.00	32.00	25.50	22.50	18.00	32.00	69.00	50.00	26.50
4x10	34.00	37.00	29.50	26.50	22.00	37.00	78.00	58.00	32.00
5x5	27.00	31.00	22.00	18.00	15.00	31.00	61.00	44.50	23.00
5x6	30.00	34.00	24.50	20.50	17.50	34.00	67.00	49.00	26.00
5x8	36.00	40.00	29.00	25.00	22.00	40.00	77.50	58.50	32.00
5x10	42.00	46.00	33.50	29.50	26.00	46.00	89.50	68.00	38.50
5x12	48.00	52.00	38.00	34.00	29.50	52.00	101.00	77.00	43.00
6x6	33.00	38.00	29.50	24.50	20.00	38.00	73.00	53.50	28.50
6x8	41.50	46.50	34.50	29.50	26.00	46.50	86.50	65.00	38.00
6x10	50.00	55.00	39.00	34.00	31.00	55.00	100.00	76.50	43.00
6x12	58.50	63.50	43.50	38.50	33.50	63.50	113.50	88.00	46.00
6x14	67.00	72.00	48.00	43.00	39.50	72.00	127.00	99.00	52.00
8x8	56.00	62.00	45.00	40.00	32.00	62.00	105.50	81.50	44.00
8x10	67.00	73.00	52.00	47.00	38.00	73.00	122.00	95.00	51.00
8x12	78.00	84.00	59.00	54.00	44.00	84.00	138.00	109.00	58.00
8x14	89.00	95.00	65.00	60.00	50.00	95.00	154.00	122.50	65.00
8x16	100.00	106.00	71.00	66.00	56.00	106.00	170.00	137.00	70.00
10x10	84.00	90.00	62.00	57.00	46.00	90.00	141.50	114.00	59.00
10x12	98.00	104.00	70.50	65.50	54.00	104.00	160.50	130.00	67.00
10x14	111.00	117.00	79.50	74.00	61.50	117.00	178.50	145.00	75.00
10x16	124.00	130.00	87.50	82.50	70.50	130.00	196.50	161.00	84.00
10x18	137.50	143.50	96.00	91.00	79.00	143.50	215.00	177.00	95.00
10x20	150.00	156.00	104.50	99.50	88.00	156.00	232.50	192.00	102.00

With 1-4 in. Ribbed Wire Glass cut to size and packed in separate crate

Size of Curb Outside	Style 10s	Style 20s	Style 30s	Style 40s	Style 50s	Style 60s	Style 70s	Style 80s	Style 90s
2x2	\$10.00	\$12.50	\$ 8.50	\$ 6.00	\$ 4.00	\$12.50	\$27.00	\$19.00	\$ 9.00
2x3	12.50	15.00	11.00	7.50	6.50	15.00	33.00	23.00	11.50
2x4	15.50	18.00	13.00	10.50	8.00	18.00	41.50	28.00	13.25
2x6	19.00	21.50	16.50	14.00	11.50	21.50	51.00	32.00	17.00
3x3	18.50	20.00	14.00	12.00	9.50	20.00	43.00	30.50	15.00
3x4	21.50	24.00	16.50	14.00	11.00	24.00	49.50	35.00	16.50
3x5	24.50	27.00	19.00	16.50	13.00	27.00	56.00	39.50	19.00
3x6	27.00	29.50	22.00	19.50	15.50	29.50	62.00	43.50	21.50
3x8	32.50	35.00	26.50	25.00	19.00	35.00	74.50	52.50	25.00
4x4	26.50	29.50	21.00	18.00	14.00	29.50	57.50	40.50	20.00
4x5	30.50	33.50	24.00	21.00	17.00	33.50	65.00	46.50	23.00
4x6	34.50	37.50	27.50	24.50	20.00	37.50	72.50	52.00	26.00
4x7	38.50	41.50	31.50	28.50	23.00	41.50	80.50	57.50	31.50
4x8	42.00	45.00	35.00	32.00	26.00	45.00	87.00	63.00	34.50
4x10	49.50	52.50	41.00	38.00	32.00	52.50	100.00	73.50	42.00
5x5	37.50	41.50	29.50	25.50	21.00	41.50	75.00	55.00	29.00
5x6	42.00	46.00	33.50	29.50	25.00	46.00	82.50	61.00	33.50
5x8	49.00	53.00	40.50	36.50	32.00	53.00	97.00	73.50	42.00
5x10	59.50	63.50	48.50	44.50	38.50	63.50	113.00	85.50	50.00
5x12	68.00	72.00	55.50	51.50	44.50	72.00	128.00	97.00	58.00
6x6	48.00	53.00	40.00	35.00	29.00	53.00	93.00	68.50	37.50
6x8	60.00	65.00	48.50	43.50	38.00	65.00	111.00	83.50	50.00
6x10	74.50	79.50	56.50	51.50	46.00	79.50	131.50	101.00	58.00
6x12	86.50	91.50	64.50	59.50	53.50	91.50	149.00	116.00	66.00
6x14	99.00	104.00	72.50	67.50	60.50	104.00	167.50	131.00	73.00
8x8	81.00	87.00	64.00	59.00	48.00	87.00	138.00	106.50	60.00
8x10	96.50	102.50	75.50	70.50	58.00	102.50	159.50	124.50	71.00
8x12	112.00	118.00	87.00	82.00	68.00	118.00	181.00	143.00	82.00
8x14	127.50	133.50	97.50	92.50	78.00	133.50	202.50	161.00	93.00
8x16	143.00	149.00	108.00	103.50	88.00	149.00	224.50	180.00	102.00
10x10	120.50	126.50	91.00	86.00	71.00	126.50	187.00	150.00	84.00
10x12	140.50	146.50	105.50	100.00	84.00	146.50	212.50	172.50	97.00
10x14	159.00	165.00	120.00	115.00	96.50	165.00	237.50	193.00	110.00
10x16	178.00	184.00	134.00	129.00	111.50	184.00	262.50	215.00	125.00
10x18	199.50	205.50	148.00	143.00	124.00	205.50	290.00	239.00	140.00
10x20	218.00	224.00	162.00	157.00	138.00	224.00	317.00	260.00	154.00

We are always glad to quote on special requirements or sizes and will submit details and drawings for consideration and approval. Skylights are built to any size curb measurements. Intermediate sizes take next higher list price.

Glass

DESCRIPTION

Plain ribbed glass, without wire mesh embedded in its center, is the least expensive glass made and is used in skylights when it is desirable to save expense, it cannot be used in metal windows because it is not fire proof and therefore will not secure a lower insurance rate.

Wired glass is manufactured and described as Polished Wire, Maze Wire, Rough Wire and Ribbed Wire, all $\frac{1}{4}$ in. thick, having wire netting embedded in its center during the process of manufacture. Set in approved hollow metal window sash it is the most efficient fire retardant known, permitting the blaze to declare itself. Its parts are visible, accessible, cleanable and the fire fighter is not handicapped by hidden or rusty fastenings nor blistering paint. Wire glass will crack from a shock or by the action of intense heat, but remains practically intact retaining its place in the sash and the perils incident to falling glass and the ingress or egress of draft and flame are avoided. In our work we find the general run of orders are for the ribbed wire glass in both windows and skylights for the reason that it gives all the desired protection at the least possible expense. Make your specifications plain as glass constitutes an important part of the quotations.

Glass to be of an approved make complying with the rules of the National Board of Fire Underwriters must be at least $\frac{1}{4}$ in. thick at the thinnest point, wire mesh to be not larger than $\frac{7}{8}$ in. and No. 24 B. & S. gauge, the plane of the wire mesh to be practically midway between the two surfaces and have an actual bearing in the grooves at least $\frac{5}{8}$ in. at all points. The putty joint should be made in such a manner as to prevent water from remaining in contact with the metal.

We strongly recommend the use of Ribbed wire glass in all skylight work.

Also that the manufacturer be required to furnish the glass cut to size for both the metal windows and skylights. This insures that it will be of the proper size as required.

**ALL GLASS IS CUT TO SIZE AND
PACKED IN SEPARATE CRATE.**



Ribbed "Wire Glass"



Rough "Wire Glass"



Maze "Wire Glass"



Polished "Wire Glass"



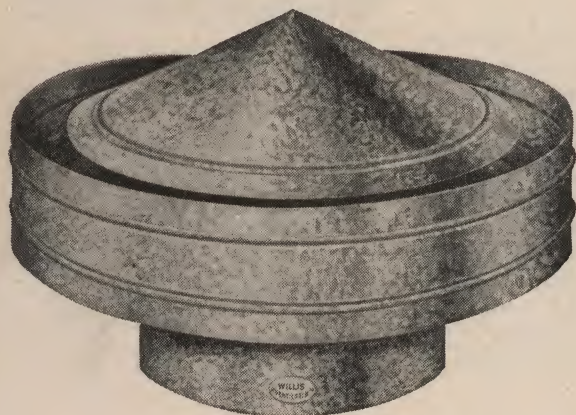
Willis Ventilators

It is with considerable pride that we present our ventilators. The success that has attended the manufacture of our skylights has also followed the marketing of the ventilators here presented. The construction and mechanism is simple, but they still give the very best results obtainable. All extra parts that so easily get out of working order have been dispensed with, only retaining those that perform a necessary and satisfactory function. Every provision has been made to guard against the entrance of storms and to secure a steady, even flow of impurities up and outward. Care has been used in the designing that a rapid movement of the air does not take place which would cause drafts that work a hardship on the occupants of the building.

Dampers are hung on pivots to normally remain closed. If you desire we can furnish chain and fusible links additional at a small extra charge.

Every WILLIS VENTILATOR is guaranteed and will gladly be replaced if found defective in workmanship or material.

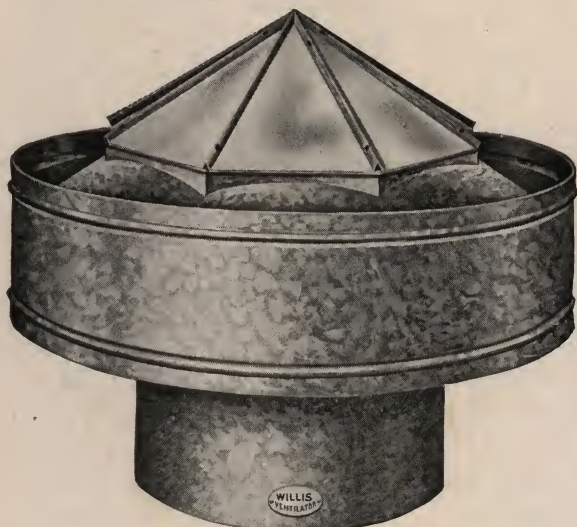
All styles of ventilators will be manufactured from any kind of sheet metal required. Prices will be quoted upon application. In the standard construction we use only Galvanized Open Hearth Steel.



Style No. 125



Style No. 126



Style No. 127

To include bases a rough pencil sketch showing the position and designating the pitch of the roof, will be required.

When dampers are wanted, specify for same. For these we will make the regular additional charge.

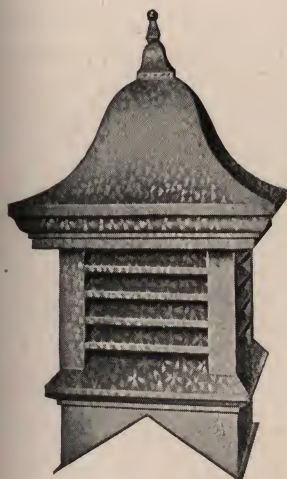
List prices are given on page 45.

We recommend the use of Style No. 126 for all sizes up to and including 20 in., for all over these we recommend Style No. 127. Please remember, however, that the customer's wishes will be followed.

Our ventilators can be built of any kind of sheet metal. The standard is Galvanized Open Hearth Steel of substantial gauges. Prices for special metal will be quoted on application.

The glass used in Styles No. 126 and No. 127 is $\frac{1}{4}$ in. ribbed wire.

Willis Louvred Ventilators



Style No. 100



Style No. 78



Style No. 79

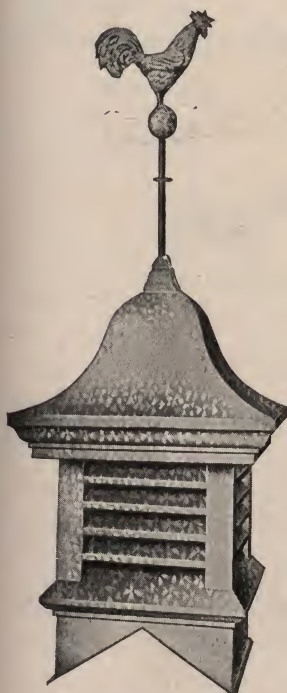


Style No. 181



Style No. 182

The above vanes are all full bodied, being approximately 6 in. through by 16 in. high by 30 in. long.



Style No. 99



Style No. 175



Style No. 176



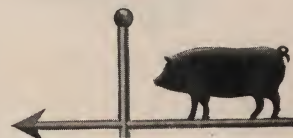
Style No. 177



Style No. 178



Style No. 179



Style No. 180

These vanes are smaller in sizes, being approximately 1 in. through by 9 in. high by 15 in. long.

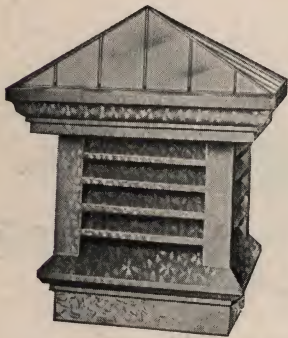
List prices are given on page 45.

As shown these ventilators are used on barns, warehouses and buildings of a similar character. The louvred section is backed up with galvanized wire mesh to exclude birds. The construction of the louvres make them storm-proof. The only wood work necessary in the erection is the securing of posts in the corners to support them in case of a wind storm. The vanes are so nicely balanced that they move in the slightest breeze to keep the head of animal faced into the wind.

The vanes shown separately to the right on this page alternate with the vane shown Style No. 99. In ordering or requesting quotation specify the vane wanted and give the size of ventilator. When ventilator is wanted without vane, we refer you to Style No. 100 above. In ordering Ventilators always give pitch of roof that we may make bases to fit.



WILLIS LOUVRED VENTILATORS—Continued



Style No. 183

This is a ventilator and skylight combined and is primarily intended for use over interior toilet rooms. When so used we can equip with hinged or pivoted dampers, although the ceiling light in toilet is sometimes arranged to operate. The louvres are constructed weatherproof and are backed with galvanized wire mesh to exclude birds, etc. Skylights are shown and described on pages 36 to 40. Any style can be used with this ventilator.

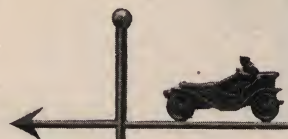
Bases can be made for any type of roof construction.

When light as well as ventilation is wanted in barns or other farm buildings, this will give you very satisfactory results for the ventilating principle is here as in any other ventilator.

Willis Farm Building Ventilators



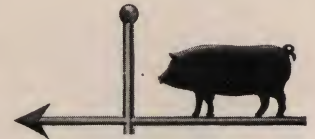
Style No. 264



Style No. 265



Style No. 266



Style No. 267



Style No. 268



Style No. 269

The ventilators here shown are built up on the same principle as our Style No. 125, shown on page 42.

The weathervanes shown are about 1 in. through by 9 in. high by 15 in. long. They are so nicely mounted that the head of the animal will be kept pointed into the wind by the slightest breeze.

The vanes shown to the right of Style No. 264 are interchangeable with this vane.

When a ventilator is wanted without a weathervane, we refer you to Style No. 270 shown herewith.



Style No. 270

Bases are cut to fit the pitch of roof on which they are to be placed. Specify clearly the style of the ventilator by its number and give the pitch of the roof, and should you be intending to place it at some other point on the roof than at the ridge, a rough pencil sketch will prove the best means of giving the information.

Galvanized wire mesh screening is placed in the ventilators to exclude the entrance of birds, etc.

List prices are given on page 45.



List Price for Ventilators—Pages 42, 43, 44

Neck Diameter	Style No. 125	Style No. 126	Style No. 127	Round Bases	Square Bases
6-inch.....	\$ 3.00	On Application Glass is ¼ in. Ribbed Wire		\$ 1.00	\$ 1.50
7-inch.....	3.50			1.00	1.50
8-inch.....	3.50			1.00	1.50
9-inch.....	4.00			1.50	2.00
10-inch.....	4.50			1.50	2.00
12-inch.....	4.50	\$ 7.00	\$ 7.00	2.00	3.00
14-inch.....	5.50	10.30	10.30	2.50	4.00
16-inch.....	6.75	12.35	12.35	3.50	5.25
18-inch.....	8.90	13.65	13.65	5.25	6.25
20-inch.....	9.30	16.45	16.45	5.75	7.50
24-inch.....	13.50	20.00	20.00	6.00	8.25
28-inch.....	19.60	28.00	28.00	7.50	9.50
30-inch.....	24.30	33.50	33.50	8.50	10.50
34-inch.....	27.75	42.00	42.00	10.00	12.00
36-inch.....	28.00	45.50	45.50	10.50	13.00
40-inch.....	38.00	66.75	66.75	12.00	14.50
48-inch.....	52.00	78.75	78.75	16.00	20.00
60-inch.....	91.00	118.00	118.00	25.00	30.00
72-inch.....	118.00	156.00	156.00	30.00	40.00

Sizes	Style No. 100	Style Nos. 99, 78, 79, 181, 182	Style Nos. 175, 176, 177, 178, 179, 180	Style No. 183
2 ft. 0 in.x2 ft. 0 in.....	\$28.00	\$44.00	\$36.00	\$40.00
2 ft. 6 in.x2 ft. 6 in.....	32.00	50.00	40.00	44.00
3 ft. 0 in.x3 ft. 0 in.....	40.00	58.00	48.00	52.00
3 ft. 6 in.x3 ft. 6 in.....	44.00	62.00	52.00	56.00
4 ft. 0 in.x4 ft. 0 in.....	48.00	66.00	56.00	60.00
4 ft. 6 in.x4 ft. 6 in.....	52.00	70.00	60.00	64.00
5 ft. 0 in.x5 ft. 0 in.....	56.00	74.00	64.00	68.00

Neck Diameter	Style No. 270	Style Nos. 264, 265, 266, 267, 268, 269
16-inch.....	\$14.00	\$19.00
18-inch.....	17.00	22.00
20-inch.....	20.00	25.00
24-inch.....	25.00	30.00
28-inch.....	34.00	39.00
30-inch.....	37.50	42.50
36-inch.....	52.00	57.00
40-inch.....	68.00	73.00
44-inch.....	76.00	81.00
48-inch.....	80.00	85.00

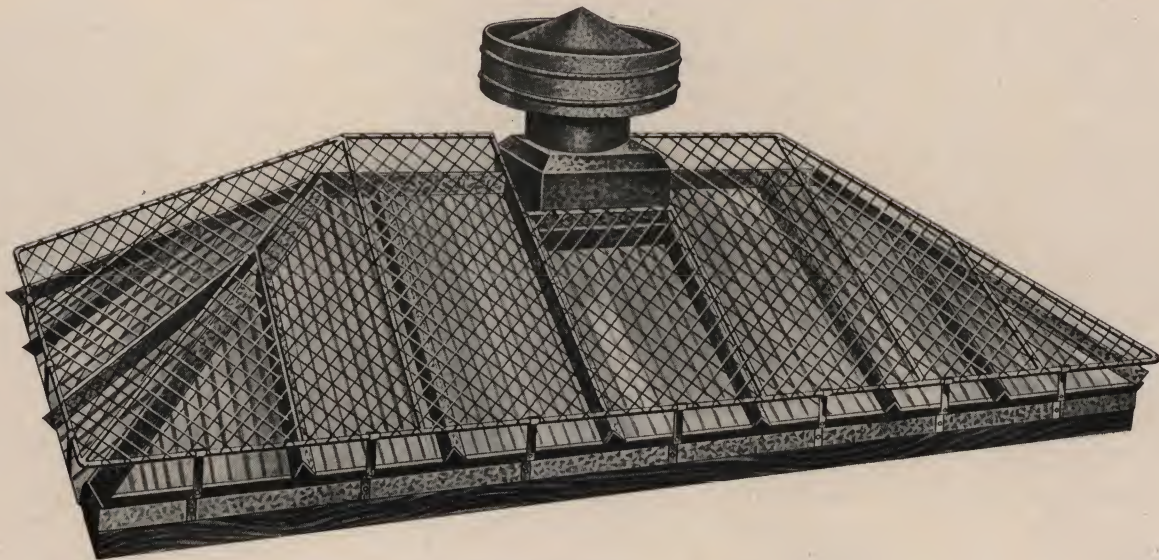
We manufacture all style of ventilators in any kind of sheet metal. Prices will be quoted on application. The list prices above are based on Galvanized Open Hearth Steel of the proper gauges.

We suggest that whenever possible you ask for a net price quotation giving specifications as to what you require at the time. This will give us an opportunity of giving you the benefit of market conditions as they exist at the time.

We manufacture a ventilator very much similar to Style No. 100, but octagon in shape and this type has been found very acceptable for use on church building construction. Prices and details will be submitted at any time promptly upon receipt of a request giving the necessary information.



Wire Skylight Guards

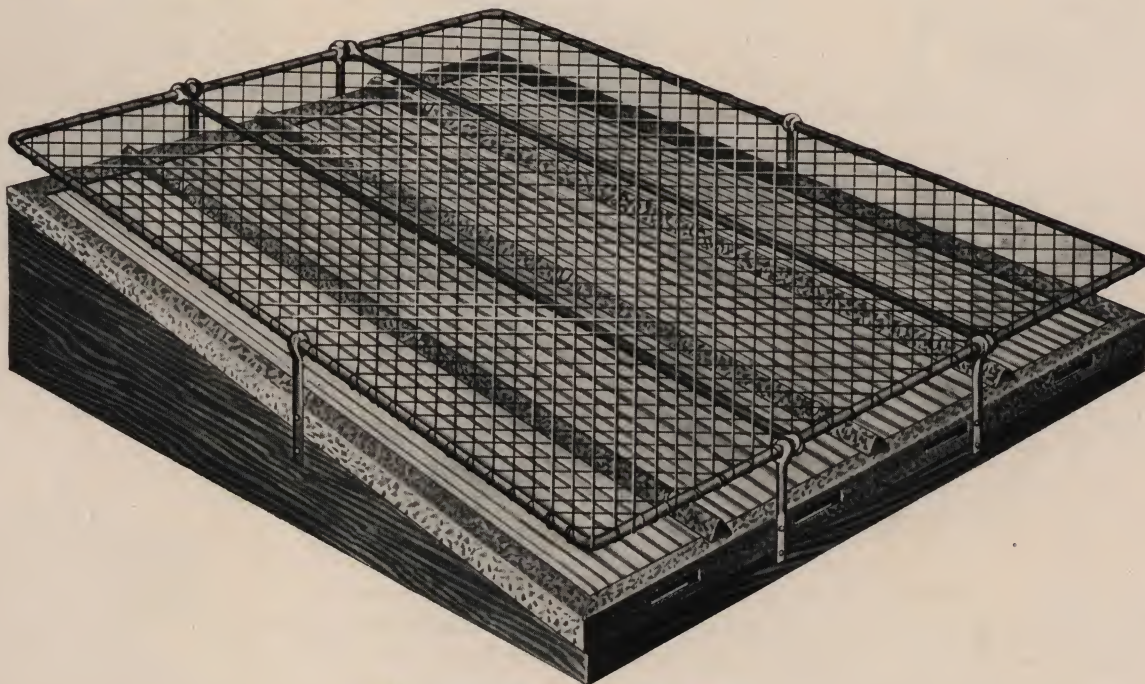


No. 1306 Wire Skylight Guards

- | | | |
|-------|---|---|
| 1 | inch mesh, No. 13 wire, round iron frame..... | } |
| 1 | inch mesh, No. 12 wire, round iron frame..... | |
| 1 1/4 | inch mesh, No. 12 wire, round iron frame..... | |
| 1 1/4 | inch mesh, No. 11 wire, round iron frame..... | |

Made with Iron Standards raised up from glass same as No. 1307.
We make special low net prices on quantities of this work.

Prices quoted on application.



No. 1307 Wire Skylight Guards

- | | | |
|-------|---|---|
| 1 | inch mesh, No. 13 wire, round iron frame..... | } |
| 1 | inch mesh, No. 12 wire, round iron frame..... | |
| 1 1/4 | inch mesh, No. 12 wire, round iron frame..... | |
| 1 1/4 | inch mesh, No. 11 wire, round iron frame..... | |

Made with Iron Standards to raise the guards up from the glass as shown above, so as to allow cleaning of the glass without removing the Wire Guards. Painted any desired color, usually drab or made of Galvanized Wire. We can furnish a guard for any of our styles of Skylights.

Prices quoted on application.



"Classik" Metal Ceilings

GENERAL INFORMATION

Metal ceilings are composed of individual parts or units, made of sheet steel by the stamping process, and painted. On the following pages we show the cornices, borders, field plates, moldings, etc., comprising the various designs we manufacture. In a general way the ceiling material may be divided into two classes continuous ceilings and side walls, and panel ceilings and side walls.

Continuous Ceilings and Side Walls: This term applies to all ceilings and side wall plates, borders, fillers and the like, which have nailing points on level with ceiling or wall line. Such may be applied to wood sheathing without furring strips, but when working over plaster, studding, or joists, furring strips are necessary and must be placed as explained in the following general instructions.

Panel Ceilings and Side Walls: This refers wholly to all sunken panels or plates, of which we have various depths and most of which must be applied to furring strips, whether applied over joists, plaster, or sheathing. The size of furring strips is usually $1 \times 1\frac{1}{4}$ inches, but same must be of sufficient thickness to carry the depth of panel used.

All gas pipes or conduits should be buried or recessed; otherwise furring of additional depth will be necessary to provide for the clearance for ceiling or wall panels.

Working Plans: Proper working plans are supplied, which are prepared from information and measurements furnished. If incorrect information is furnished in the matter of measurements, location of stairways, skylights, or other obstructions, discrepancies will occur for which we will not be responsible.

Sufficient allowance for cutting, overlapping, and wastage will be provided for. An extra charge will be made for any additional material required on account of incorrect information or measurements.

Our plans will show in detail the exact location of every piece of material. It is very important that the constructor carefully study the working drawings and should be thoroughly understood before commencing the work.

Leveling Joists: With a straight-edge it can be determined whether furring down or leveling is necessary. This may be accomplished by nailing to the side of joists a strip of necessary thickness or by setting wedges, as may be required, after ceiling furring strips have been leveled.

It is absolutely essential that furring strips lengthwise and crosswise of the room are centered exactly to the center of nailing points on ceiling plates.

Directions for Applying "Classik" Patent Steel Ceiling and Wall Finish

Before commencing the application of material, verify all measurements and study carefully working plan, which shows the position of each piece of metal furnished.

From both ends of the room at the points indicated on working plan as "starting line," strike a chalk line; this establishes a starting line from which to work.

For Continuous Ceilings: Use the following rule for placing of wood furring strips; to wit: Place the first wood strip on starting line, and parallel to the same place additional strips 12 inches on centers for plates of 6 or 12-inch multiple, and for such 24-inch multiple plates which are not sufficiently rigid to carry their weight without buckling or sagging. For all other 24-inch multiple plates place strips 24 inches on centers. Cross-furring or headers must be inserted at the end of each plate whether same be furnished in 2, 4 or 8 foot lengths. This method of furring excels methods formerly practiced because it provides a solid foundation or backing for all nailing points and requires a less quantity of strips; also reduces to a minimum the labor required in the application of the materials.

Furring should always be placed at right angle with joists; cross-furring or headers parallel with joists.



METAL CEILINGS—Continued

If any imperfect seams or other imperfections are noticeable after the first coat of paint has been applied, same should be closed up securely by the painter or decorator before applying the second or finishing coat of paint, using cement or putty for that purpose.

Parties desiring a suggestion for a scheme of color work should consider not only the woodwork, but also draperies and furnishings.

There should be no striking contrasts. Warm, harmonious colors will give the most artistic and pleasing effect.

All cornices and moldings should be applied to a chalk line so that the finished work may be absolutely straight and accurate.

Nail the foot of the cornice in position before nailing the top edge, so as to provide for the underlapping of filler if necessary. Stamped miters for inside and outside corners are furnished for certain coves and cornices, and can be used for right-angle miters only. Stamped miter leaves for inside and outside corners are furnished for certain coves and cornices, and may be used for irregular-angle miters.

For certain coves and cornices both stamped miters and leaves are furnished. For all other coves and cornices the ceiling constructor will make or cope the necessary miters as the work proceeds. Working plans always indicate width of border, molding, filler, and projection of cornice, and this will guide the constructor in spacing furring strips to receive same.

Strike a chalk line in center of strip or "starting line" for guidance in placing the plates or panels perfectly straight and true.

Always commence the application of material at rear of room and work forward, when possible.

Metal Side Walls: The foregoing rules also govern in the application of metal side-wall material, for which furring strips are required when the work is done over plaster or studding; we, however, recommend the use of close sheathing for all continuous plates. When sunken panels are used, furring strips must be used of a size to carry the depth of panel.

If metal wainscoting is used, this should be applied first, then such other material as working plan calls for to make the finish above wainscoting.

Care should be taken to keep the work straight and true.

Wood Furring Strips

Furring strips of $\frac{7}{8} \times \frac{7}{8}$ inch size are very satisfactory when working over plaster, but experienced ceiling constructors, when working over joists or studding, prefer $1 \times 1\frac{1}{4}$ inch size; they are less liable to split, and provide a rigid foundation for the nailing of metal; especially is this true when toe-nailing headers or cross-furring in position.

Wood furring strips are never provided for unless especially ordered; then same are charged for extra, because users of this class of material can purchase, in their own city or vicinity, the necessary furring strips at satisfactory prices and save freight charges. Wood furring strips of $1 \times 1\frac{1}{4}$ inches weigh about 18 pounds per 100 lineal feet.

The following is to assist ceiling erectors in estimating the quantity of each 100 square feet of surface covered, the quantities representing the striping for the field portion; additional to same the necessary quantity of strips for molding, filler, and cornice must be added. The size of molding, filler and cornice is a determining factor in the quantity required.

If strips are placed 24 inches on centers lengthwise and 24 inches on centers crosswise the room, 105 lineal feet required.

If strips are placed 24 inches on centers lengthwise and 48 inches on centers crosswise the room, 80 lineal feet required.

If strips are placed 24 inches on centers lengthwise and 96 inches on centers crosswise the room, 67 lineal feet required.

If strips are placed 12 inches on centers lengthwise and 96 inches on centers crosswise the room, 117 lineal feet required.



METAL CEILINGS—Continued

WHAT OUR PRICES ARE BASED ON

Prices for ceiling and wall material are for No. 29 gauge steel, painted one good priming coat both sides, including special nails for the application of the metal only, wood brackets for molding and cornice, properly packed for shipment.

The weight of ceiling and wall material packed for shipment is approximately 65 pounds per square, or 100 square feet.

Wood furring strips are never provided for unless specially ordered, then same are charged for extra.

Metal ceilings are shipped on basis of fourth-rate classification.

TERMS TO RESPONSIBLE PARTIES

For material only: Thirty days net, or two per cent for cash within ten days from date of invoice.

For work installed: Net cash on completion.

Delays will be avoided if purchasers will furnish dependable references at time of placing their order.

To parties not responsible: Order should be accompanied with remittance equal to twenty-five per cent of the value of the purchase, the balance to be subject to our sight draft with bill of lading attached. When this method of payment is desired the purchaser should not fail to state through what bank he desires collection made.

RULES FOR BILLING MATERIAL SOLD AT A DISCOUNT FROM LIST

Ceiling, side-wall, and wainscoting plates, dados, borders and fillers are sold by the square foot.

Cornices and mouldings by the lineal foot.

Leaf miters, miter blocks, and connections by the piece.

Center pieces and ornaments by the piece when made solid.

RULES FOR BILLING MATERIAL SOLD AT A NET PRICE PER SQUARE

Figure all plates, cornices, moldings, etc., at their actual individual covering area, and stiling or filler at its full width, thus saving the loss in underlapping.

RULES FOR MEASUREMENT IN COMPUTING LUMP SUM PRICE FOR MATERIAL ERECTED FOR CEILING

The area to be charged for is obtained by adding twice the vertical height of cornice from bottom of foot mold to the full length and breadth of room, and multiplying the length and breadth thus obtained together, making no deduction for any skylight, stairway, or for any other opening or obstruction measuring less than 50 square feet.

FOR SIDE WALL AND WAINSCOTING

The area charged for is obtained by multiplying the belt measurement of the room by height from base of foot mold on cornice to baseboard, making no deductions for any openings measuring less than 25 square feet, nor for larger openings more than for whole sheets saved.

In computing this class of work the contractor must make provisions in his price for loss of material from wastage, etc.

NOTICE TO BUYERS

The buyer of work erected complete in place is to prepare the room for the sheet-metal work by removing all electric wire, drops, and other obstructions, change location of pipes when necessary to conform to center pieces, and complete all masonry and carpenter work, leveling of joists when necessary, and provide for all false beams when same are specified or required. When such removals and preparations are not made, the same may be performed by the seller, and cost of same and of delays thereby to be charged to the buyer, who must also be responsible for any additional cost or damage to the seller by inaccuracies or errors in dimensions furnished by him, on which the seller's estimates are based.



METAL CEILINGS—Continued



Colonial Design No. 5412. (Shows section 9x12 feet).

Composed of Cornice No. 4494 (depth 12 inches, projection 9 inches); Filler No. 4569; Beam Molding and Ells No. 4233; Field Panels No. 4506 and No. 4507. Any depth cornice may be substituted to suit conditions. Wood furring strips must be used when working over sheathing, plaster or joists; preferred size 1x1½ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.85
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 10.10

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$10.40
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 10.75
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 11.15

METAL CEILINGS—Continued



Colonial Design No. 5444. (Shows section 9x12 feet).

Composed of Cornice No. 4093 (depth 8 inches, projection 6 inches); Stippled Filler No. 4377; Field Plates No. 4059. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

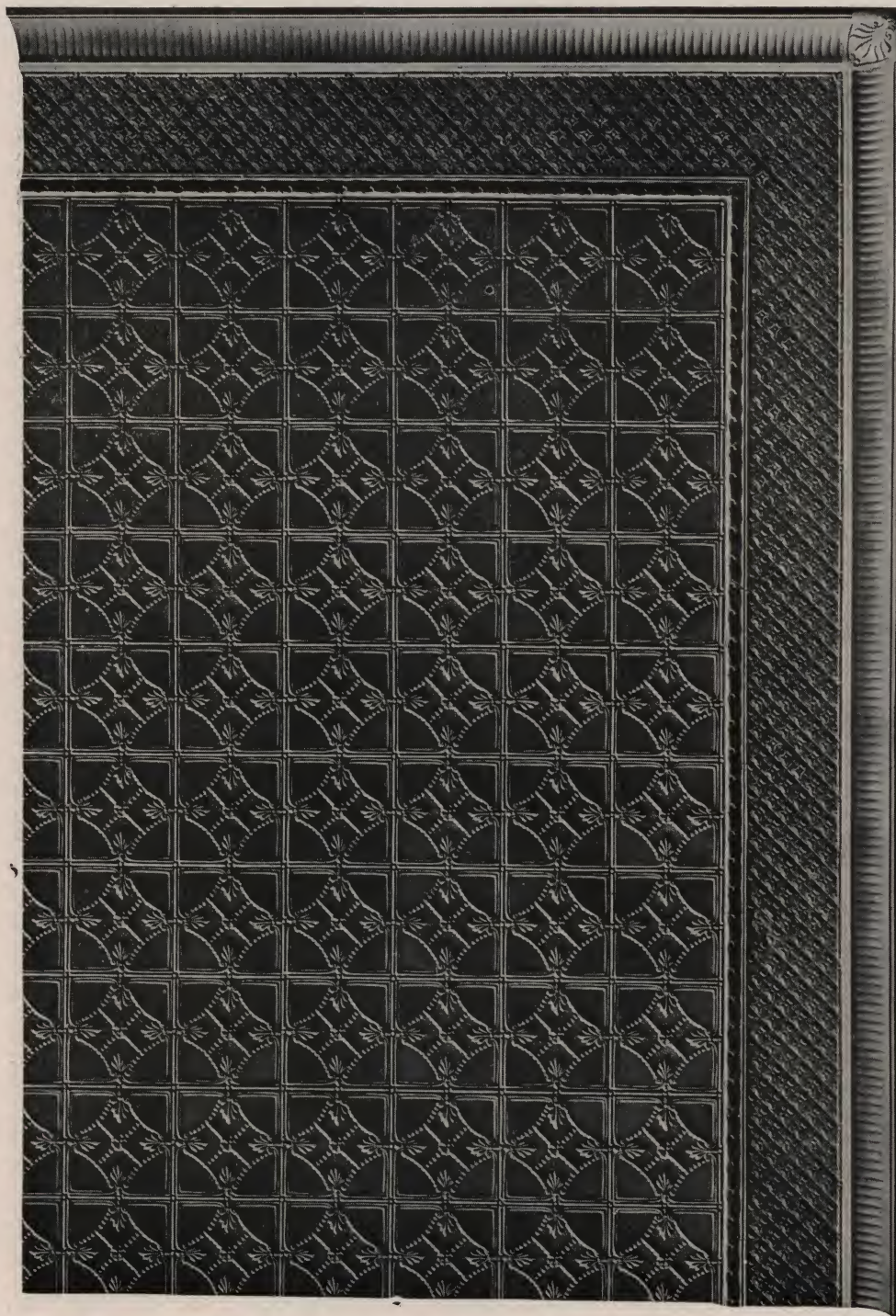
Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.25
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.40

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.60
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.75
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.00



METAL CEILINGS—Continued



Colonial Design No. 5380. (Shows section 9x12 feet).

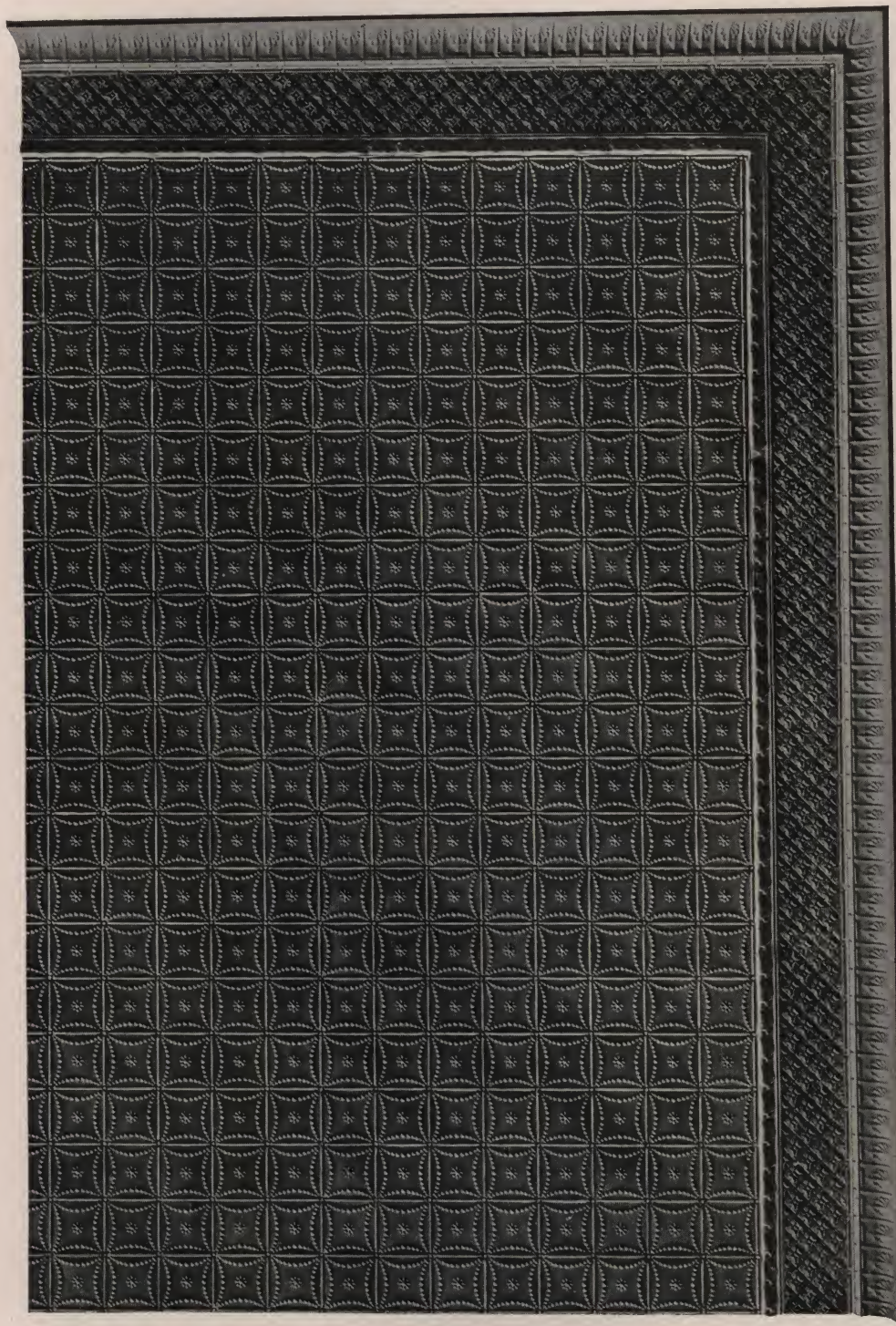
Composed of Cornice No. 4574 (depth 6 inches, projection 6 inches); Filler No. 4458; Field Plates No. 4562. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 8.70
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 8.90

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.10
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.20
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 9.60

METAL CEILINGS—Continued



Colonial Design No. 4725. (Shows section 9x12 feet).

Composed of Cornice No. 4232 (depth 5 inches, projection 5 inches); Filler No. 4458; Field Plates No. 4214. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 8.70
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 8.90

Price, 100 sq. ft. based on room 18x25 ft. or larger..... 9.10
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.20
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 9.60



METAL CEILINGS—Continued



Colonial Design No. 4402. (Shows section 9x12 feet).

Composed of Cornice No. 4574 (depth 6 inches, projection 6 inches); Filler No. 4380; Field Plates No. 4700. Any depth cornice may be substituted to suit conditions. Wood furring strips must be used when working over plaster, sheathing or joists; preferred size 1x1½ inches.

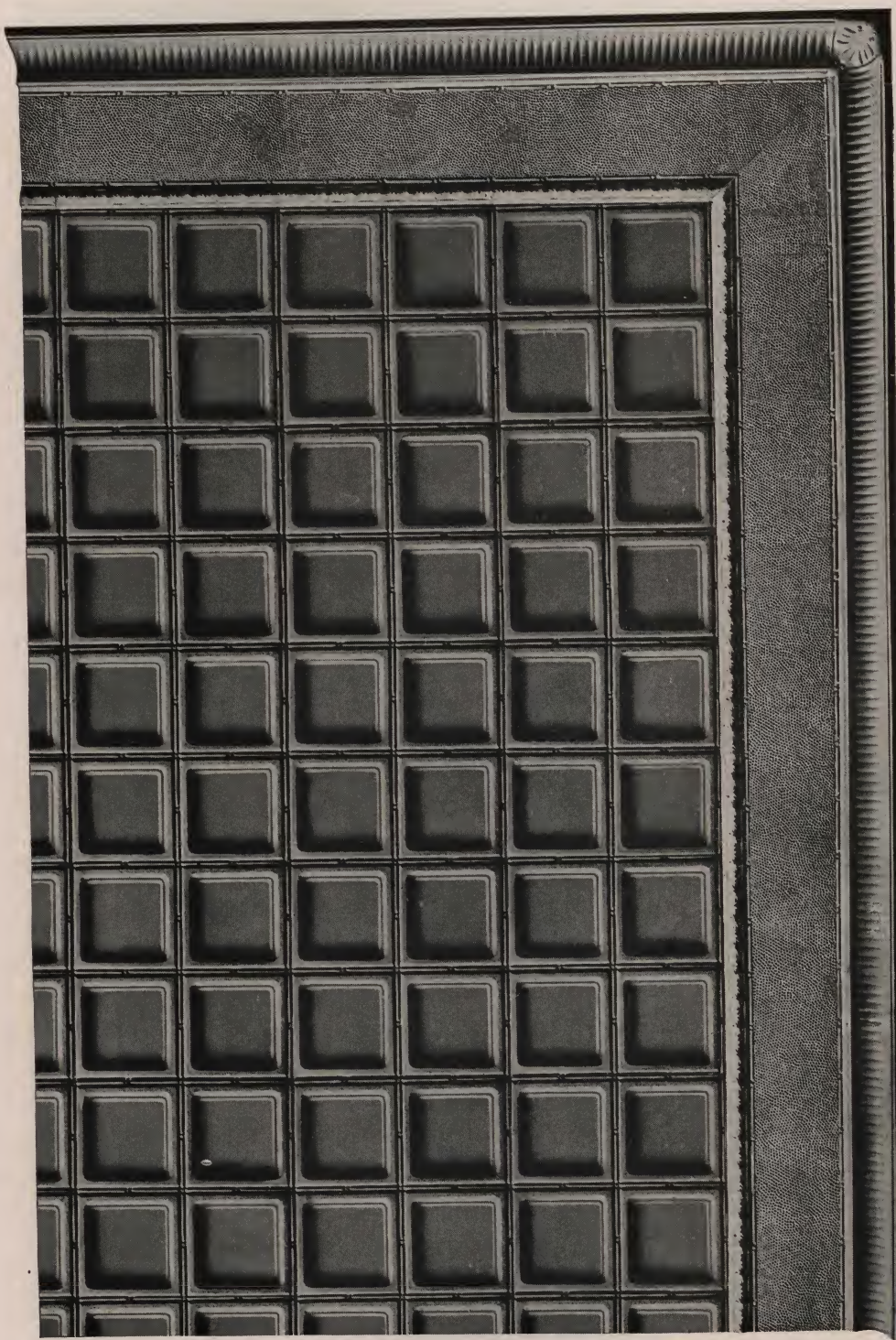
Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.00
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.20

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.35
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.45
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 9.75



METAL CEILINGS—Continued



Colonial Design No. 4401. (Shows section 9x12 feet).

Composed of Cornice No. 4574 (depth 6 inches, projection 6 inches); Filler No. 4380; Field Plates No. 4196. Any depth cornice may be substituted to suit conditions. Wood furring strips must be used when working over plaster, sheathing or joists; preferred size 1x1½ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.00
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.30

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.60
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.90
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.25



METAL CEILINGS—Continued



Colonial Design No. 5422. (Shows section 9x12 feet).

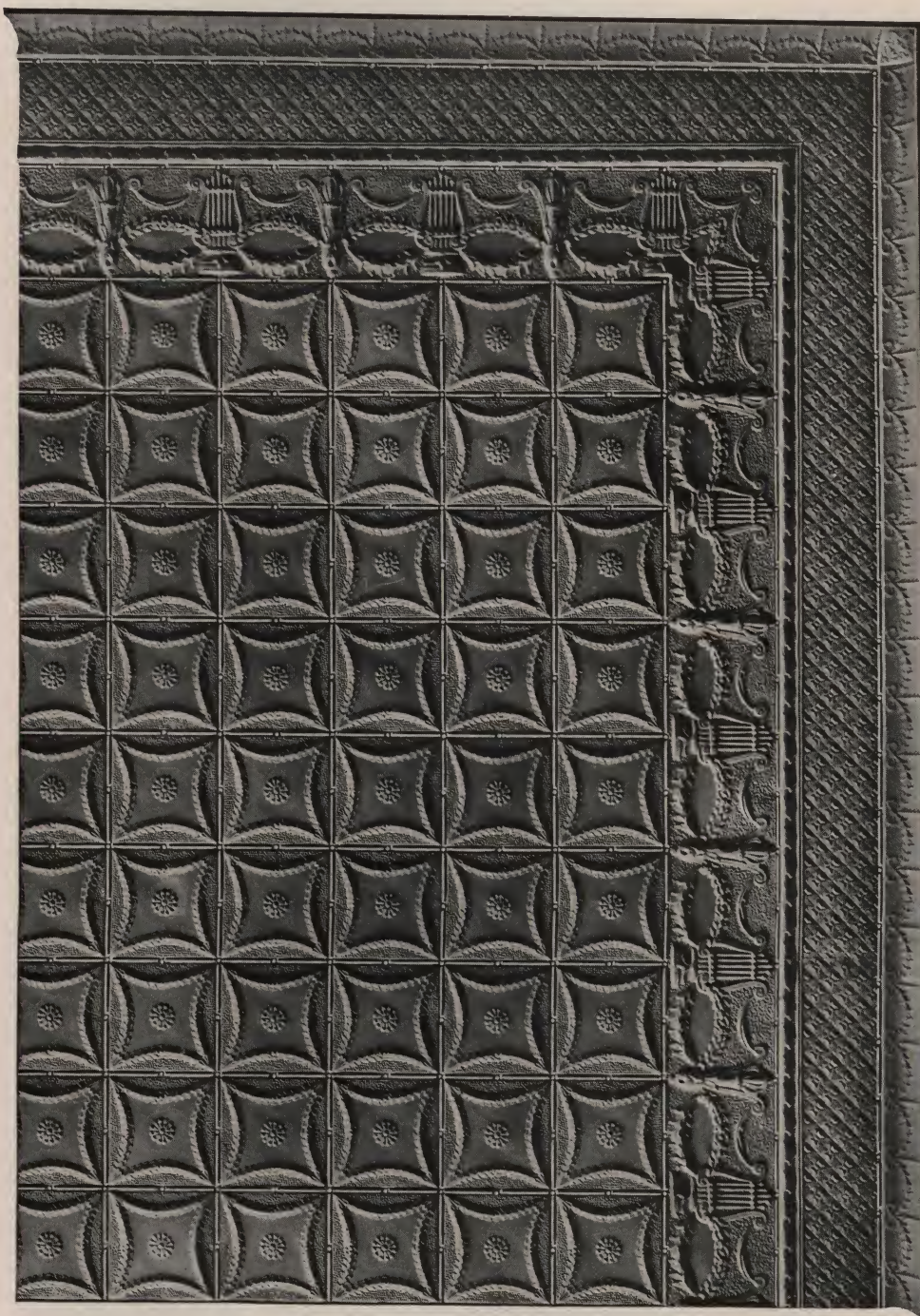
Composed of Cornice No. 4557-A (depth 9 inches, projection 7 inches); Filler No. 4458; Field Plates No. 4700. Any depth cornice may be substituted to suit conditions. Wood furring must be used when working over plaster, sheathing or joists; preferred side 1x1½ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.00
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.15

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.35
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.60
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.00

METAL CEILINGS—Continued



Empire Design No. 5319. (Shows section 9x12 feet).

Composed of Cornice No. 4469 (depth 4 inches, projection 4 inches); Filler No. 4458; Border and Corners No. 4487-B; Field Plates No. 4486. Field Plate No. 4486 is Standard Bead Lap Joint Construction; the same plate when furnished in Duplex Slip Joint Construction is No. 4103. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1¼ inches.

Standard Bead Lap Joint

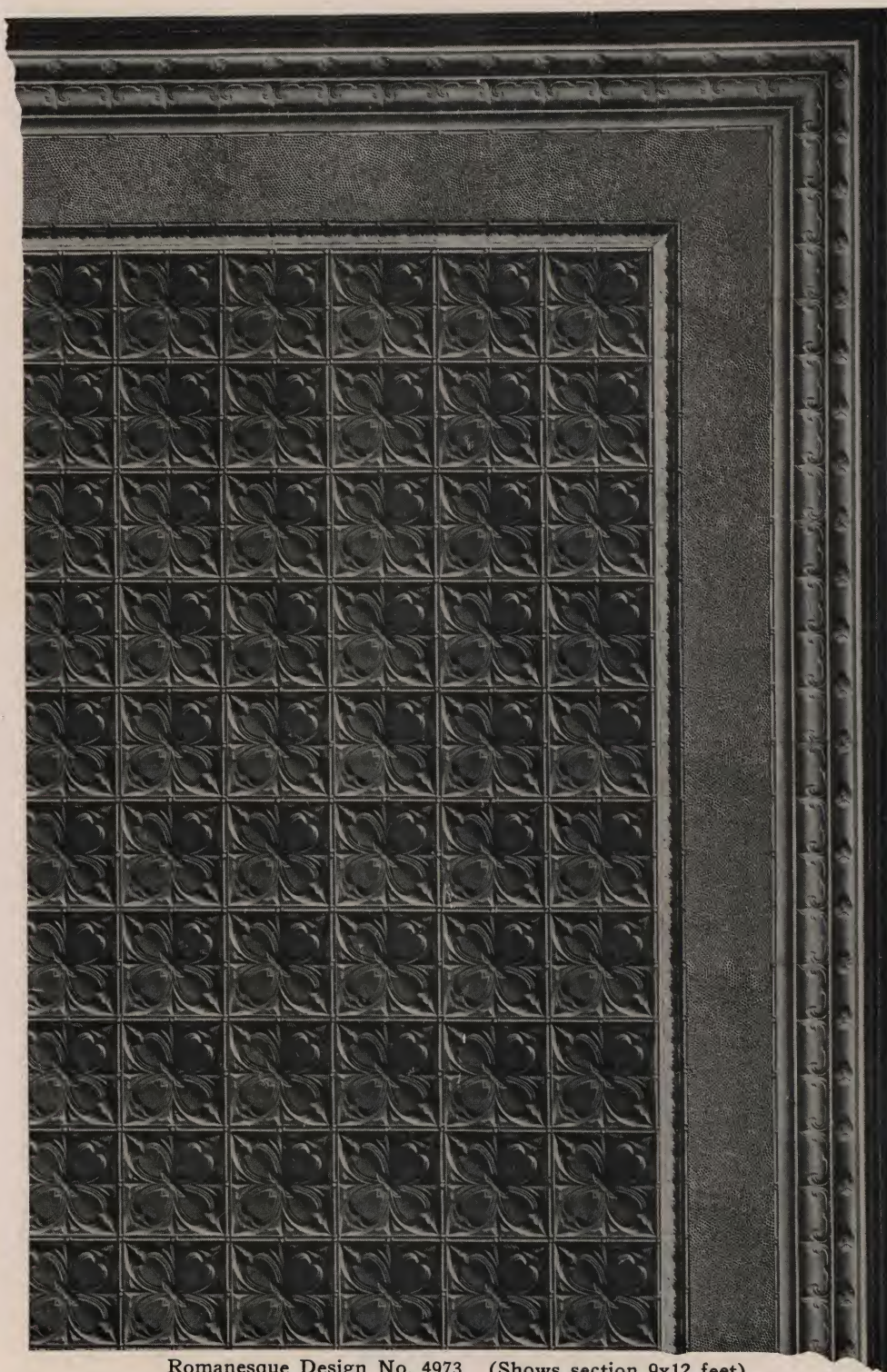
Price, 100 sq. ft. based on room 20x60 ft. or larger.....	\$ 8.80
Price, 100 sq. ft. based on room 18x40 ft. or larger.....	9.05
Price, 100 sq. ft. based on room 18x25 ft. or larger.....	9.25
Price, 100 sq. ft. based on room 15x20 ft. or larger.....	9.60
Price, 100 sq. ft. based on room 12x15 ft. or larger.....	10.25

With Duplex Slip Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....	\$ 9.05
Price, 100 sq. ft. based on room 18x40 ft. or larger.....	9.30
Price, 100 sq. ft. based on room 18x25 ft. or larger.....	9.40
Price, 100 sq. ft. based on room 15x20 ft. or larger.....	9.75
Price, 100 sq. ft. based on room 12x15 ft. or larger.....	10.40



METAL CEILINGS—Continued



Romanesque Design No. 4973. (Shows section 9x12 feet).

Composed of Cornice No. 4391-A (depth $9\frac{1}{2}$ inches, projection 9 inches); Filler No. 4380; Field Plates No. 4522. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size $1 \times 1\frac{1}{4}$ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.00
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.20

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.40
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.75
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.25

METAL CEILINGS—Continued



Stucco Design No. 5451. (Shows section 9x12 feet).

Composed of Cornice No. 4290 (depth 1½ inches, projection 1½ inches); ¾ Beam Molding No. 4082-A; Full Beam Molding No. 4082; Field Plate No. 4382-A. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$14.25
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 15.00

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$15.50
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 16.00
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 17.00



METAL CEILINGS—Continued



Stucco Design No. 5448. (Shows section 9x12 feet).

Composed of Cornice No. 4094 (depth 6 inches, projection 6 inches); Filler No. 4380; Field Panels No. 4381. Any depth cornice may be substituted to suit conditions. Metal may be applied directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 8.90
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.10

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.30
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.50
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 9.75

METAL CEILINGS—Continued



Stucco Design No. 5462. (Shows section 9x12 feet).

Composed of Cornice No. 4067 (depth 12 inches, projection 12 inches); Filler No. 4377; Molded Border No. 4061; Inside Corners No. 4061; Field Plates No. 4060. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.40
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.65

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$10.00
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 10.40
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.90



METAL CEILINGS—Continued



Stucco Design No. 5465. (Shows section 9x12 feet).

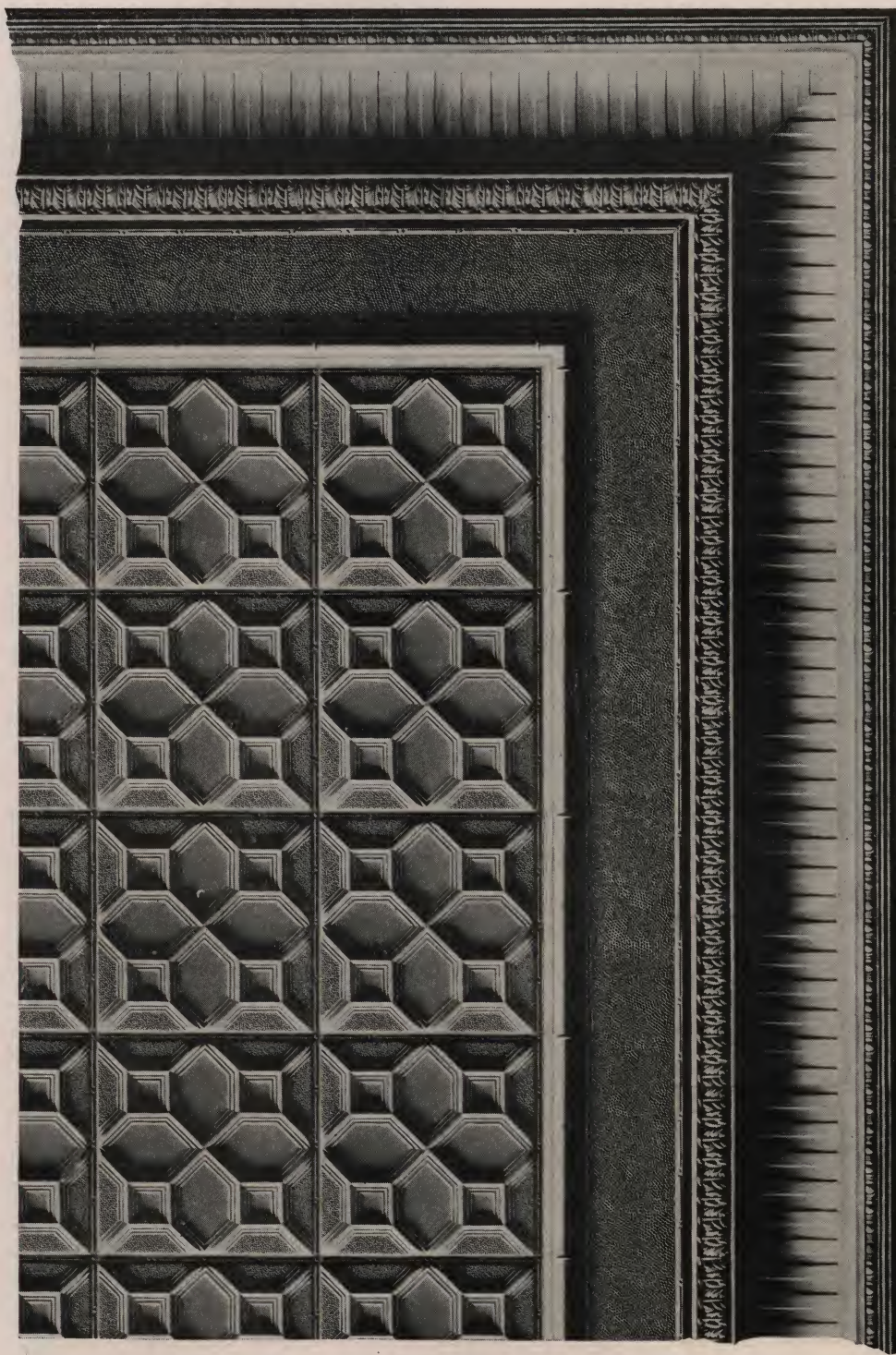
Composed of Cornice No. 4557-A (depth 9 inches, projection 7 inches); Filler No. 4377; Molded Border No. 4063; Corner Plates No. 4063; Field Plates No. 4062. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1 1/4 inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.40
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.65

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$10.00
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 10.40
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.90

METAL CEILINGS—Continued



Stucco Design No. 5467. (Shows section 9x12 feet).

Composed of Cornice No. 4552 (depth 18 inches, projection 12 inches); Filler No. 4377; Beam Molding No. 4071; Field Plates No. 4066. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1¼ inches.

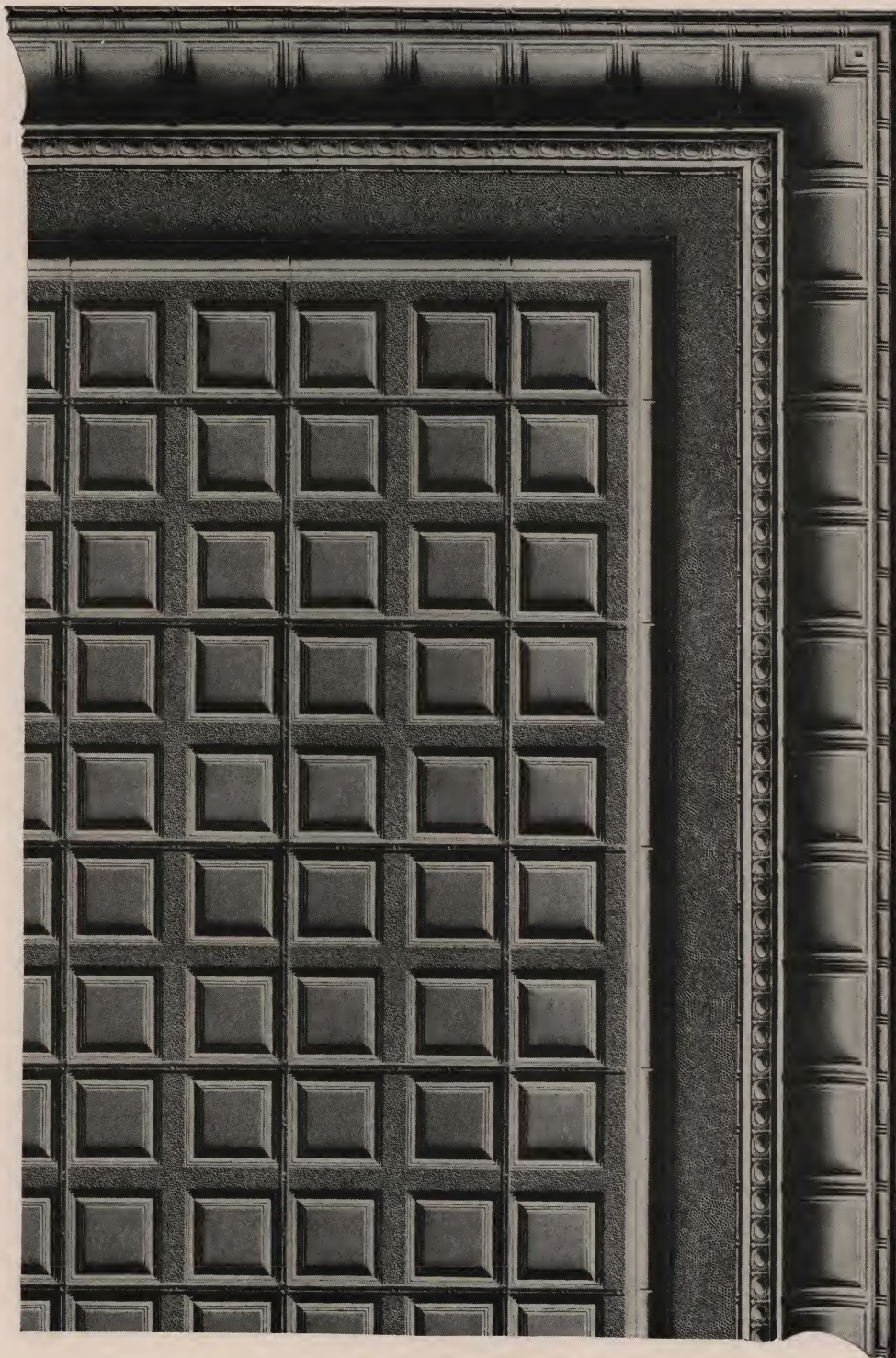
Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.50
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.75

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$10.10
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 10.50
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 11.00



METAL CEILINGS—Continued



Stucco Design No. 5466. (Shows section 9x12 feet.)

Composed of Cornice No. 4072 (depth 12 inches, projection 12 inches); Filler No. 4377; Molded Border and Corner No. 4069; Field Plates No. 4068. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.40
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.65

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$10.00
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 10.40
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.90

METAL CEILINGS—Continued



Italian Renaissance Design No. 5142. (Shows section 9x12 feet).

Composed of Cornice No. 4460 (depth 12 inches, projection 9 inches); Filler No. 4359; Beam Molding and Ells No. 4441; Center Plates No. 4459. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

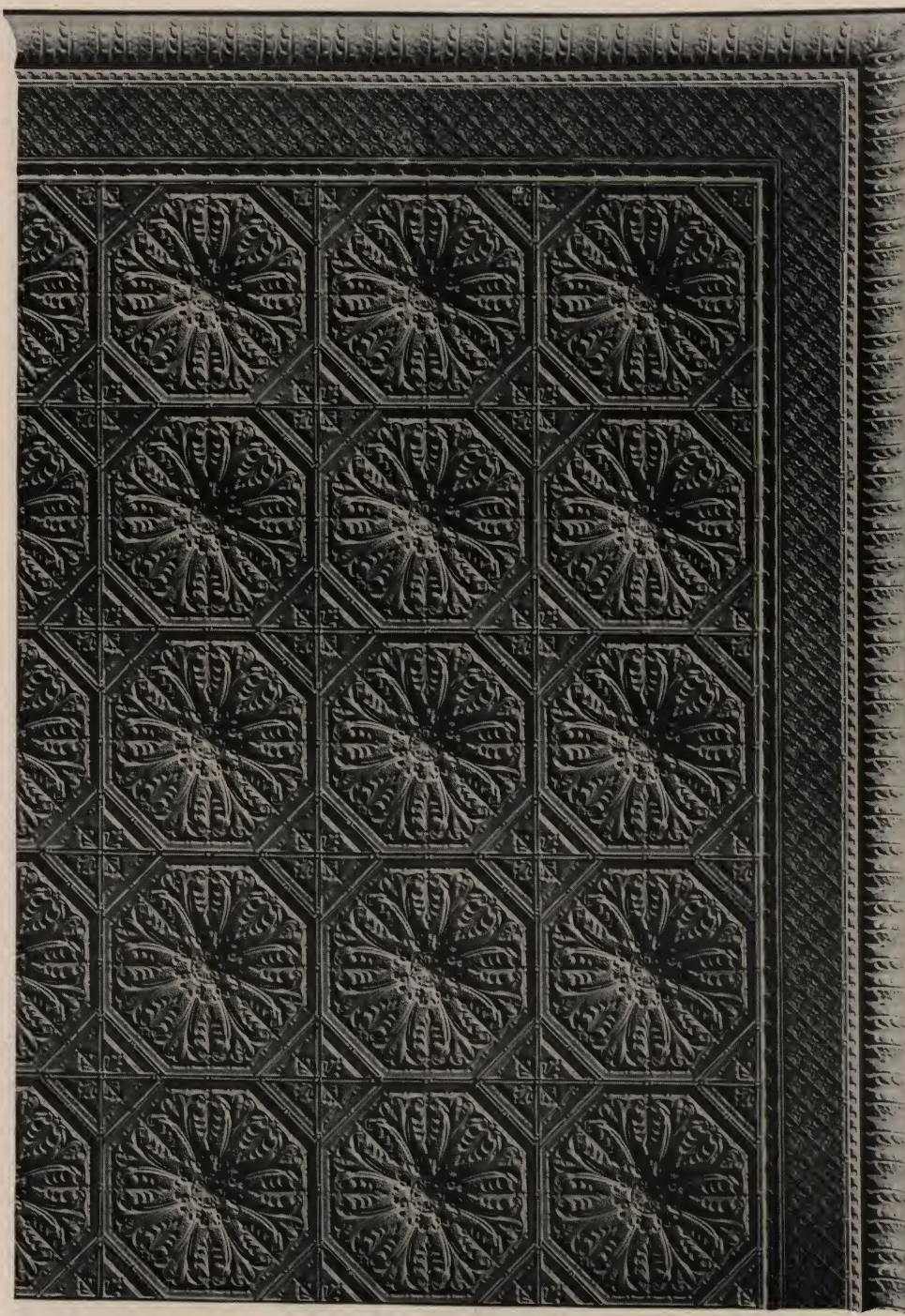
Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$10.60
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 10.75

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$11.00
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 11.25
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 11.50



METAL CEILINGS—Continued



Italian Renaissance Design No. 5126. (Shows section 9x12 feet).

Composed of Cornice No. 4450 (depth 6 inches, projection 6 inches); Filler No. 4458; Field Plates No. 4444. Field Plate No. 4444 is Standard Bead Lap Joint Construction; the same plate when furnished in Duplex Slip Joint Construction is No. 4098. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

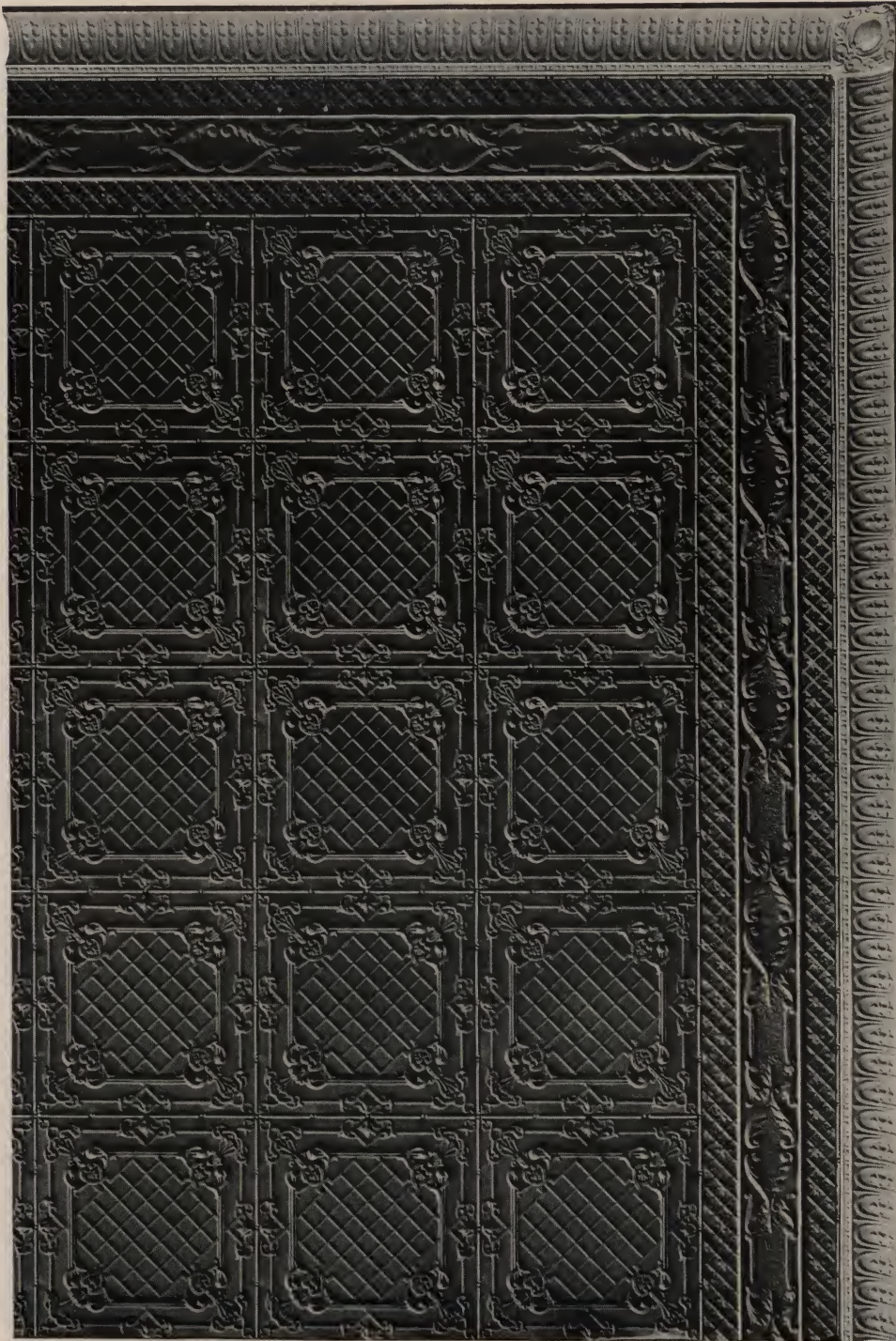
Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....	\$ 8.75
Price, 100 sq. ft. based on room 18x40 ft. or larger.....	9.00
Price, 100 sq. ft. based on room 18x25 ft. or larger.....	9.15
Price, 100 sq. ft. based on room 15x20 ft. or larger.....	9.40
Price, 100 sq. ft. based on room 12x15 ft. or larger.....	9.60

With Duplex Slip Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....	\$ 9.00
Price, 100 sq. ft. based on room 18x40 ft. or larger.....	9.25
Price, 100 sq. ft. based on room 18x25 ft. or larger.....	9.30
Price, 100 sq. ft. based on room 15x20 ft. or larger.....	9.55
Price, 100 sq. ft. based on room 12x15 ft. or larger.....	9.75

METAL CEILINGS—Continued



French Renaissance Design No. 5210. (Shows section 9x12 feet).

Composed of Cornice No. 4632 (depth 6 inches, projection 6 inches); Filler No. 4612; Field Plates No. 4637. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1¼ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 8.75
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.00

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.15
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.40
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 9.60



METAL CEILINGS—Continued



French Renaissance Design No. 5248. (Shows section 9x12 feet).

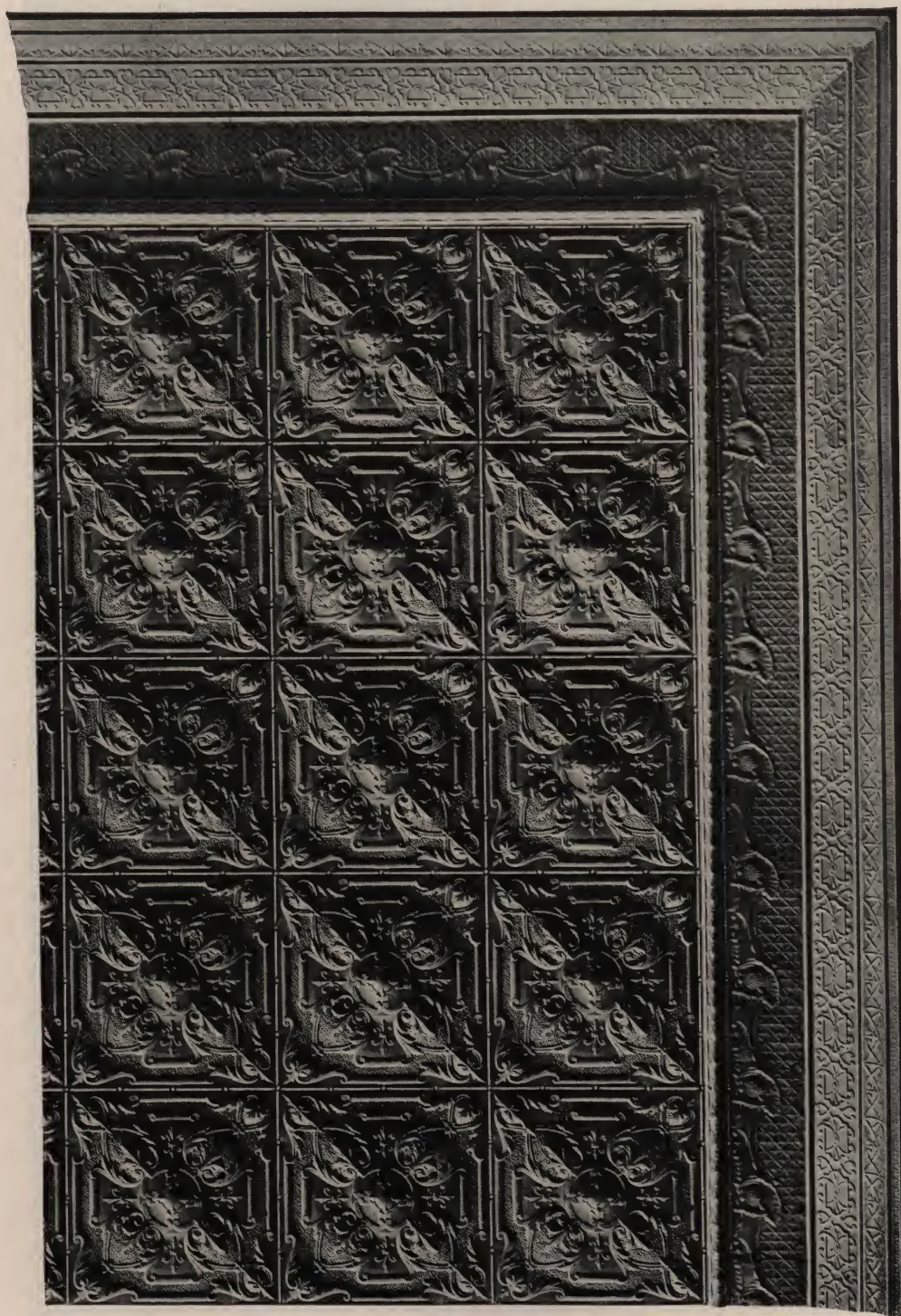
Composed of Cornice No. 4632 (depth 6 inches, projection 6 inches); Filler No. 4458; Border Panel No. 4609; Field Plates No. 4619. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 8.75
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.00

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.15
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.40
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 9.60

METAL CEILINGS—Continued



French Renaissance Design No. 5197. (Shows section 9x14 feet).

Composed of Cornice No. 4640 (depth 12 inches, projection 9 inches); Filler No. 4621; Field Panels No. 4611. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

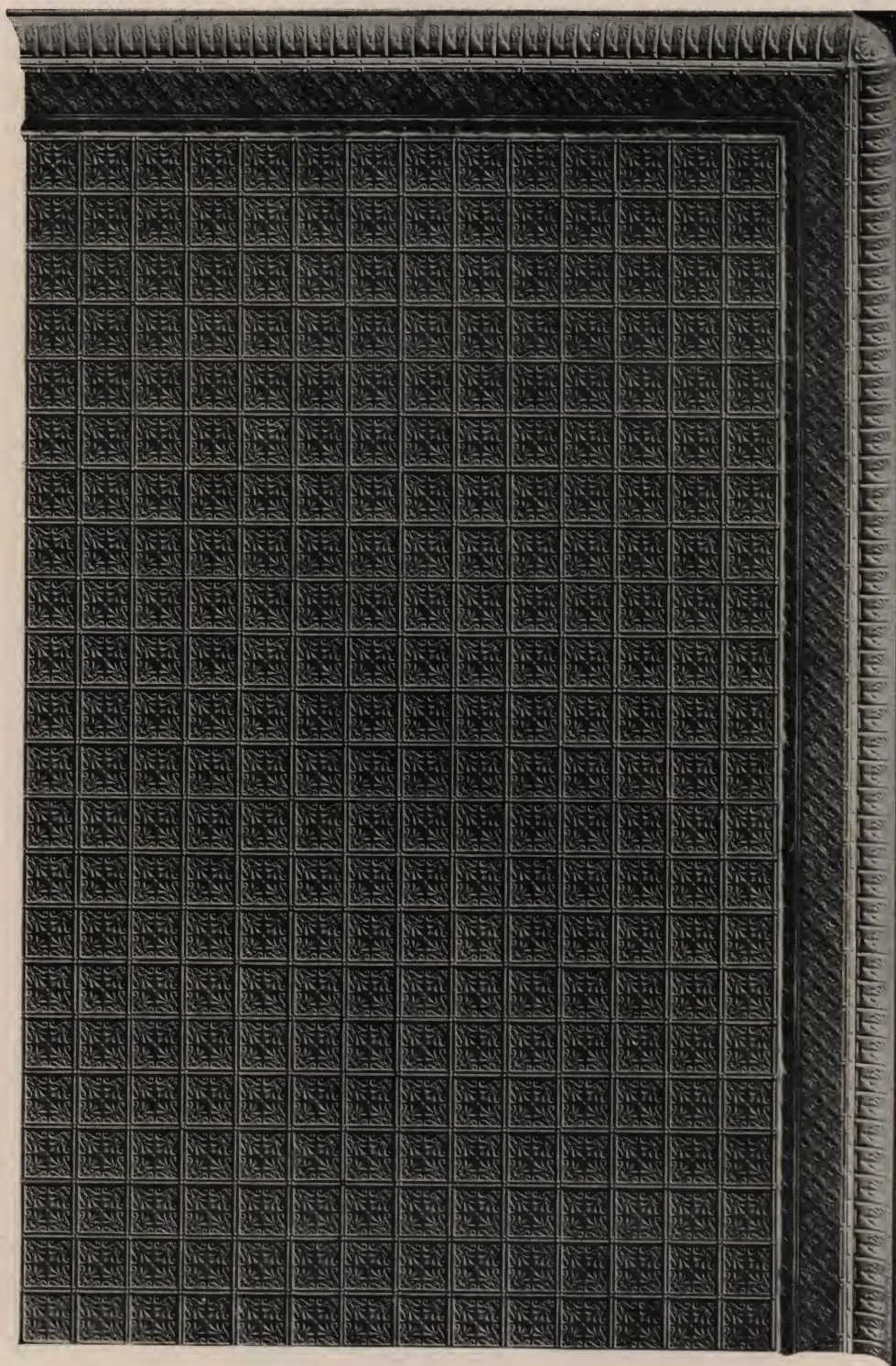
Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 8.90
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.20

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.35
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.65
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.15



METAL CEILINGS—Continued



Greek Design No. 4914. (Shows section 9x12 feet).

Composed of Cornice No. 4232 (depth 5 inches, projection 5 inches); Filler No. 4458; Plates No. 4225. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 8.70
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 8.90

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.10
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.25
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 9.50



METAL CEILINGS—Continued



Greek Design No. 4875. (Shows section 9x12 feet).

Composed of Cornice No. 4243 (depth 9 inches, projection 9 inches); Filler No. 4458; Border No. 4229; Inside Corner No. 4229; Plates No. 4228. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

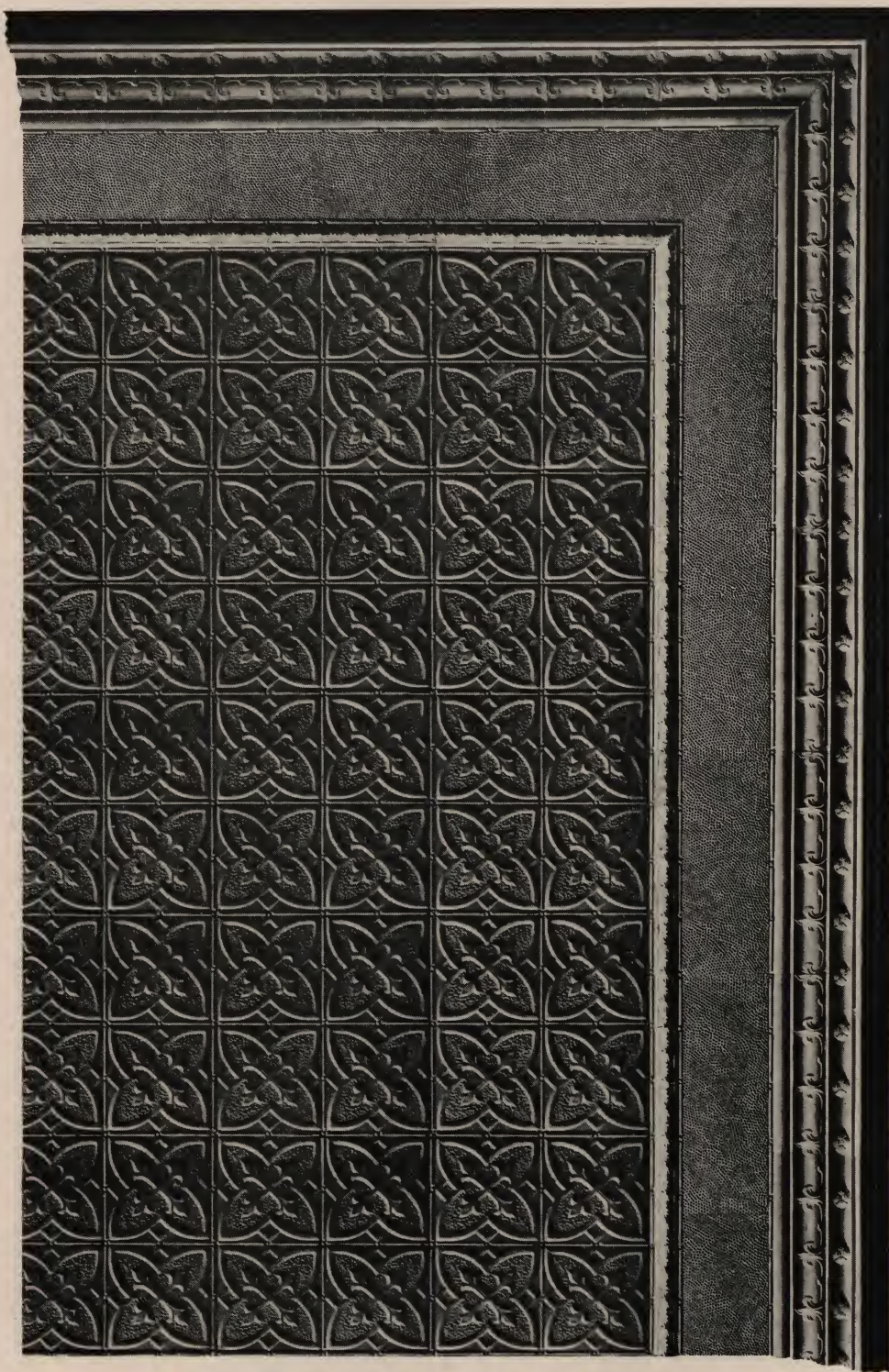
Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 8.90
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.15

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.40
 Price, 100 sq. ft. based on room 15x27 ft. or larger..... 9.60
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.15



METAL CEILINGS—Continued

**Gothic Design No. 5004. (Shows section 9x12 feet).**

Composed of Cornice No. 4391-A (depth $9\frac{1}{2}$ inches, projection 9 inches); Filler No. 4380; Field Plates No. 4386. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size $1 \times 1\frac{1}{4}$ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.00
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.20

Price, 100 sq. ft. based on room 18x25 ft. or larger..... 9.40
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.75
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.25

METAL CEILINGS—Continued



Italian Renaissance Design No. 5133. (Shows section 9x12 feet).

Composed of Cornice No. 4460 (depth 12 inches, projection 9 inches); Filler No. 4359; Border and Corner No. 4463; Plates No. 4461. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

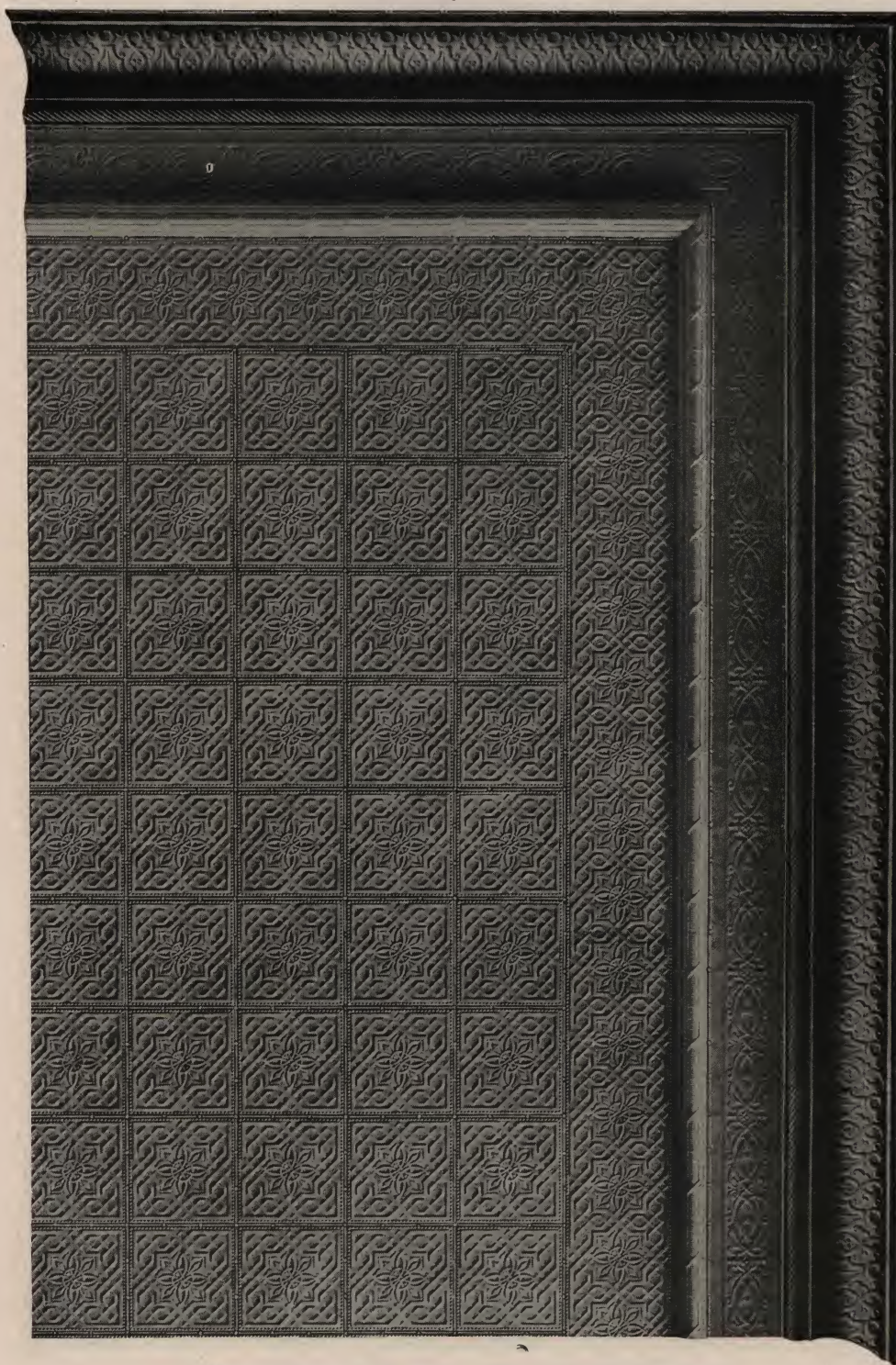
Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 8.85
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.10

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.35
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.70
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.30



METAL CEILINGS—Continued



Moorish Design No. 5061. (Shows section 9x12 feet).

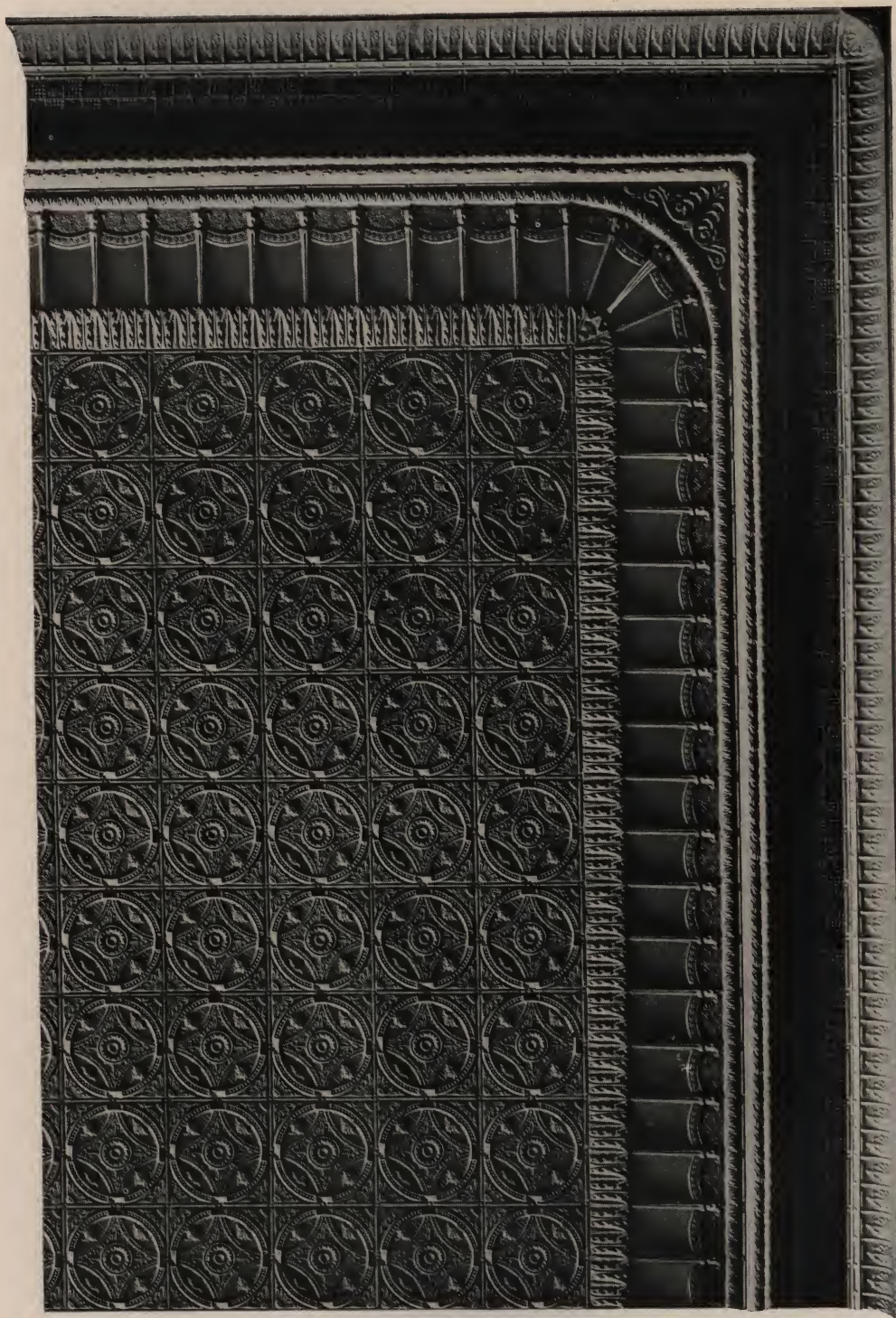
Composed of Cornice No. 4585 (depth $9\frac{1}{2}$ inches, projection 8 inches); Filler No. 4587; Molded Border No. 4588; Corner No. 4589; Plates No. 4581. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster of joists; preferred size $1 \times 1\frac{1}{4}$ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 9.25
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.50

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.75
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 10.25
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 10.75

METAL CEILINGS—Continued



Renaissance Design No. 4728. (Shows section 9x12 feet).

Composed of Cornice No. 4232 (depth 5 inches, projection 5 inches); Filler No. 4138; Molded Border Plate No. 4192; Corner Plates No. 4190; Field Plates No. 4331. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches.

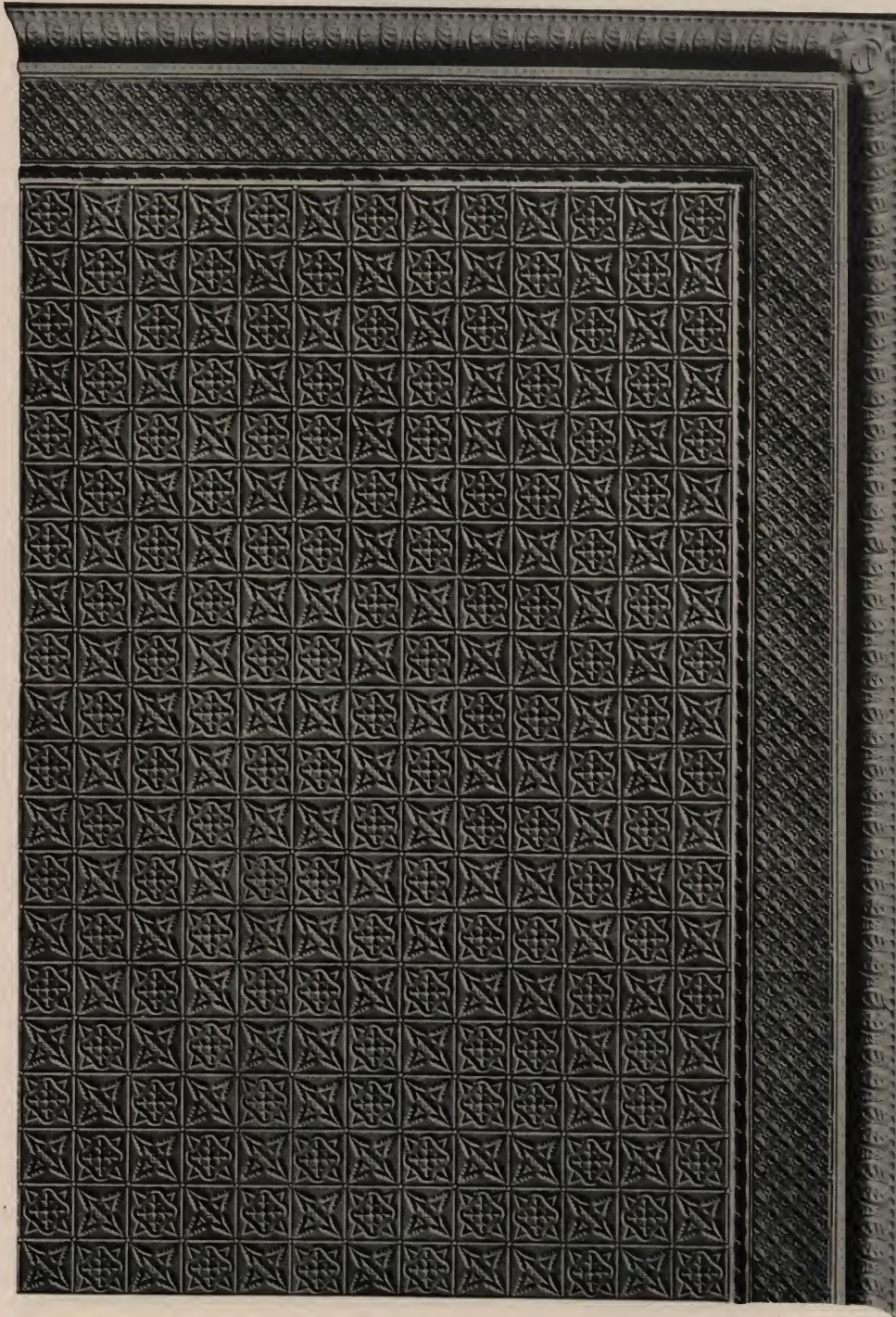
Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 8.80
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 9.10

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.30
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.55
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 9.75



METAL CEILINGS—Continued



Renaissance Design No. 4719. (Shows section 9x12 feet).

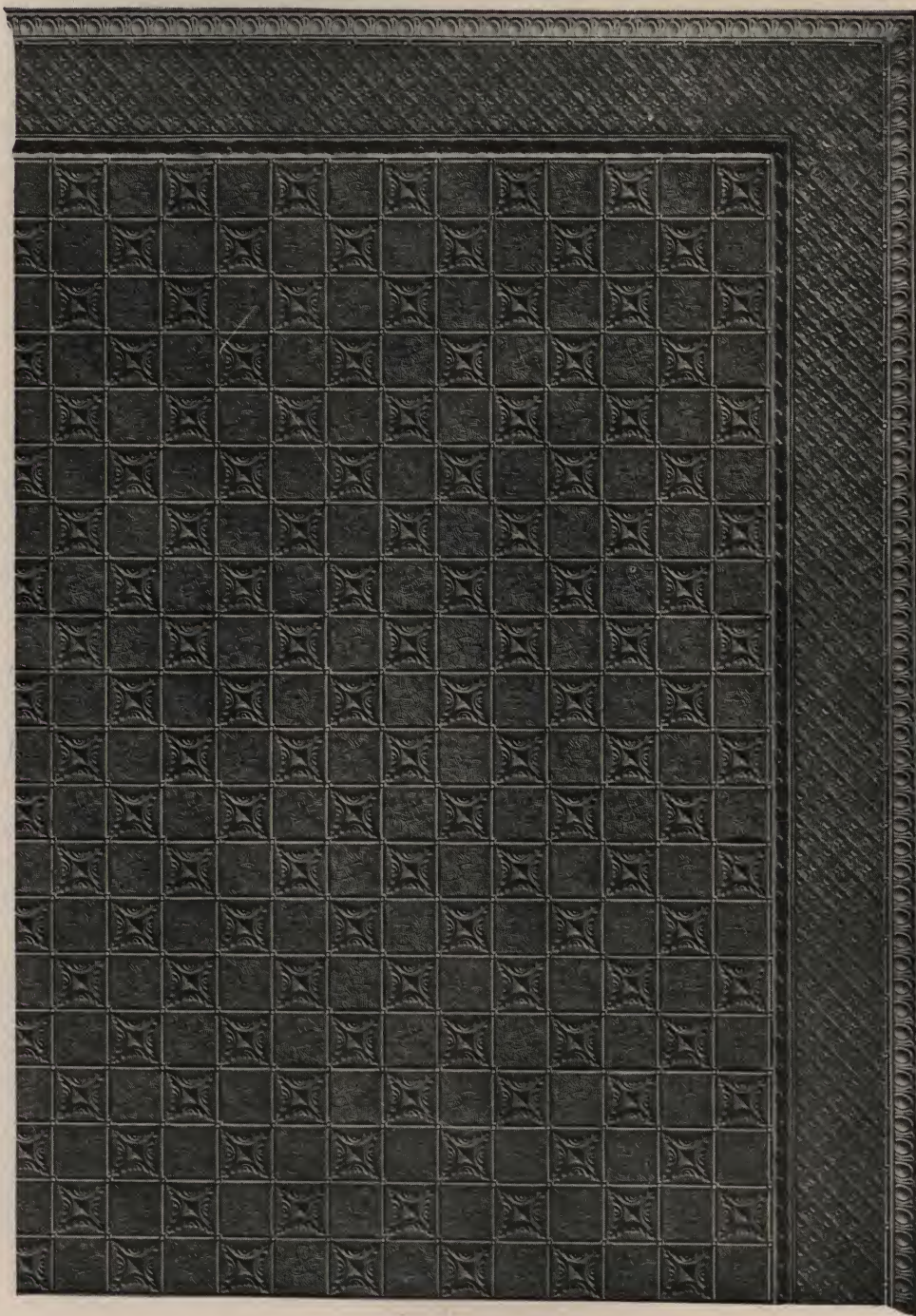
Composed of Cornice No. 4334 (depth 7 inches, projection 7 inches); Filler No. 4458; Field Plates No. 4221. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1¼ inches.

Standard Bead Lap Joint

Price, 100 sq. ft. based on room 20x60 ft. or larger.....\$ 8.70
 Price, 100 sq. ft. based on room 18x40 ft. or larger..... 8.95

Price, 100 sq. ft. based on room 18x25 ft. or larger.....\$ 9.20
 Price, 100 sq. ft. based on room 15x20 ft. or larger..... 9.40
 Price, 100 sq. ft. based on room 12x15 ft. or larger..... 9.85

METAL CEILINGS—Continued



Renaissance Design No. 4718. (Shows section 9x12 feet).

Composed of Egg and Dart Cornice No. 4335 (depth 3 inches, projection 3 inches), 5½ cents per lineal foot; Filler No. 4458, 8 cents per square foot; Field Plates No. 4222, 8 cents per square foot. Any depth cornice may be substituted to suit conditions. Metal may be nailed directly to wood sheathing. Wood furring strips must be used when working over plaster or joists; preferred size 1x1½ inches. (No Cornice Mitres furnished for Cornice Mold No. 4335).



METAL CEILINGS—Continued

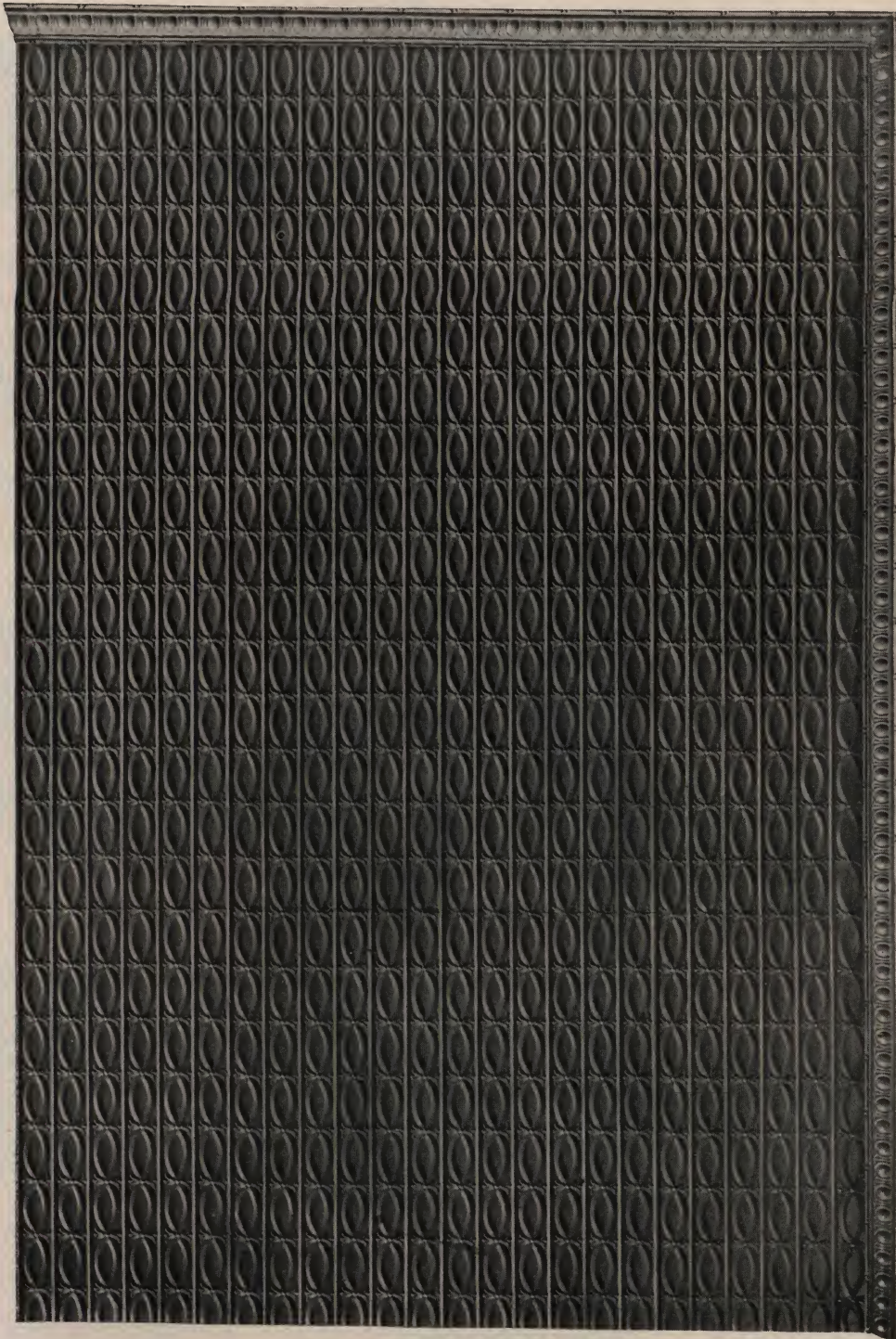


Parisian Scroll Design No. 4734. (Shows section 9x12 feet).

Composed of Egg and Dart Cornice No. 4335 (depth 3 inches, projection 3 inches); list price $5\frac{1}{2}$ c per lineal foot; Field Plates No. 4080, 24 inches by 96 inches, $7\frac{1}{2}$ c per square foot. Metal may be nailed directly to wood sheathing or to joists without furring strips; also may be applied over plaster without wood furring strips by nailing to joists through plaster; ends of plates will center on joists or beams set 16 or 18 inches on centers. (No Cornice Mitres furnished for Cornice Mold No. 4335).



METAL CEILINGS—Continued



Dublin Scroll Design No. 4730. (Shows section 9x12 feet).

Composed of Egg and Dart Cornice No. 4335 (depth 3 inches, projection 3 inches), 5½¢ per lineal foot; Field Plates No. 4100, 7¼¢ per square foot. Metal may be nailed directly to wood sheathing or to joists without furring strips; also may be applied over plaster without wood furring strips by nailing to joists through plaster. The beads or ribs running lengthwise are of a size to stiffen the plate sufficiently for nailing to joists, but while this application is satisfactory to many, it must be admitted that it is more satisfactory to use wood furring strips. If wood furring strips are used the preferred size is 1x1¼ inches. Nail strips in position 12 inches on center at right angles to joists and set in headers or cross-furring 96 inches on centers or under end laps of plates, which enables you to nail all laps at intervals of 6 inches, this is sufficient to make a perfectly tight piece of work. Ceiling Plates No. 4100 have covering area of 24x96 inches, and the end lap of the plates will center on joists or beams set 12 or 16 inches on centers. This pattern makes a desirable covering for the ceilings and walls of basements, lofts, storage-rooms, etc., as well as for store-rooms, when something more expensive and ornamental is not desired. (No Cornice Mitres furnished for Cornice Mold No. 4335).

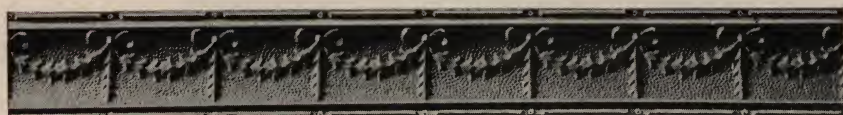


Metal Ceiling Cornices



Greek
Cornice Mold No. 4335

Depth, 3 inches.
Projection, 3 inches.
Length, 48 inches.
5½c per lineal ft.



Empire
Cornice No. 4469

Depth, 4 inches.
Projection, 4 inches.
Length, 48 inches.
7½c per lineal ft.



Greek
Cornice No. 4232

Depth, 5 inches.
Projection, 5 inches.
Length, 48 inches.
9c per lineal ft.



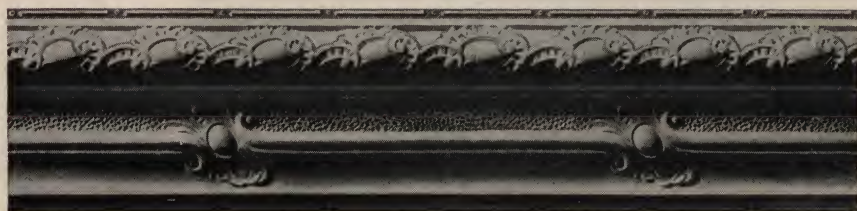
Colonial
Cornice No. 4574

Depth, 6 inches.
Projection, 6 inches.
Length, 48 inches.
11c per lineal ft.



French Renaissance
Cornice No. 4632

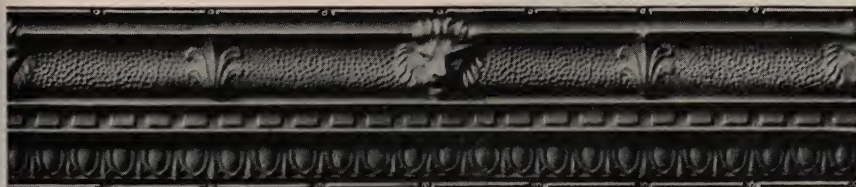
Depth, 6 inches.
Projection, 6 inches.
Length, 48 inches.
11c per lineal ft.



Rococo
Cornice No. 4325

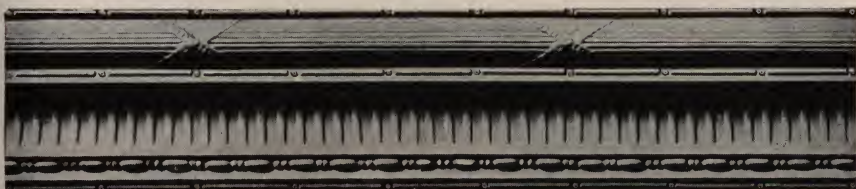
Depth, 7 inches.
Projection, 9 inches.
Length, 48 inches.
14c per lineal ft.

METAL CEILING CORNICES—Continued



Greek
Cornice No. 4244-A

Depth, 8 $\frac{1}{4}$ inches.
Projection, 7 $\frac{1}{4}$ inches.
Length, 48 inches.
12 $\frac{1}{2}$ c per lineal ft.



Colonial
Cornice No. 4557-A

Depth, 9 inches.
Projection, 7 inches.
Length, 48 inches.
13 $\frac{1}{2}$ c per lineal ft.



Romanesque
Cornice No. 4520

Depth, 9 $\frac{1}{4}$ inches.
Projection, 8 $\frac{1}{4}$ inches.
Length, 48 inches.
15 c per lineal ft.



Greek
Cornice No. 4243

Depth, 9 inches.
Projection, 9 inches.
Length, 48 inches.
15 c per lineal ft.



Romanesque
Cornice No. 4091

Depth, 10 inches.
Projection, 8 inches.
Length, 48 inches.
17 c per lineal ft.



METAL CEILING CORNICES—Continued



Italian Renaissance
Cornice No. 4460

Depth, 12 inches.
Projection, 9 inches.
Length, 48 inches.
18c per lineal ft.



Colonial
Cornice No. 4494

Depth, 12 inches.
Projection, 9 inches.
Length, 48 inches.
18c per lineal ft.



Greek
Cornice No. 4226

Depth, 12 3/4 inches.
Projection, 4 inches.
Length, 48 inches.
15c per lineal ft.



Stucco
Cornice No. 4072

Depth 12 inches.
Projection 12 inches.
Length, 48 inches.
21c per lineal ft.

Metal Sidewall



Colonial
No. 4576

24x96 inches.
24x84 inches.
24x72 inches.
24x60 inches.
80 per sq. ft.



French Renaissance
No. 4650

24x96 inches.
24x24 inches.
80 per sq. ft.



Gothic
No. 4387

24x96 inches.
80 per sq. ft.



METAL SIDEWALL—Continued



Rococo
No. 4352

24x96 inches.
24x84 inches.
24x72 inches.
24x60 inches.
8c per sq. ft.



French Renaissance
No. 4604

24x96 inches.
24x84 inches.
24x72 inches.
24x60 inches.
8c per sq. ft.



Italian Renaissance
No. 4462

24x96 inches.
24x84 inches.
24x72 inches.
24x60 inches.
8c per sq. ft.

Header Course—Wall Plate



Header Course No. 4249-A

12x24 inches. Per sq. ft.....8½c



Header Course No. 4583-A

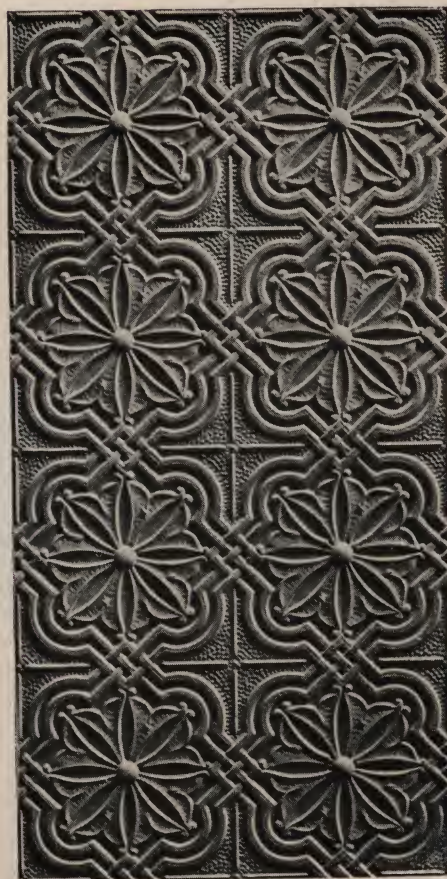
15x96 inches. Per sq. ft.....8¼c



Greek. Wall Plate No. 4249

This Plate is 6-inch multiple

24x96-84-72-60 inches. Per sq. ft.....8c



Moorish. Plate No. 4583

This Plate is 12-inch multiple

24x24-96 and 12x24 inches. Per sq. ft.....8c

If you do not see just what you want in design, we ask that you write us and it will be a pleasure to submit something for your further consideration as this line is complete.

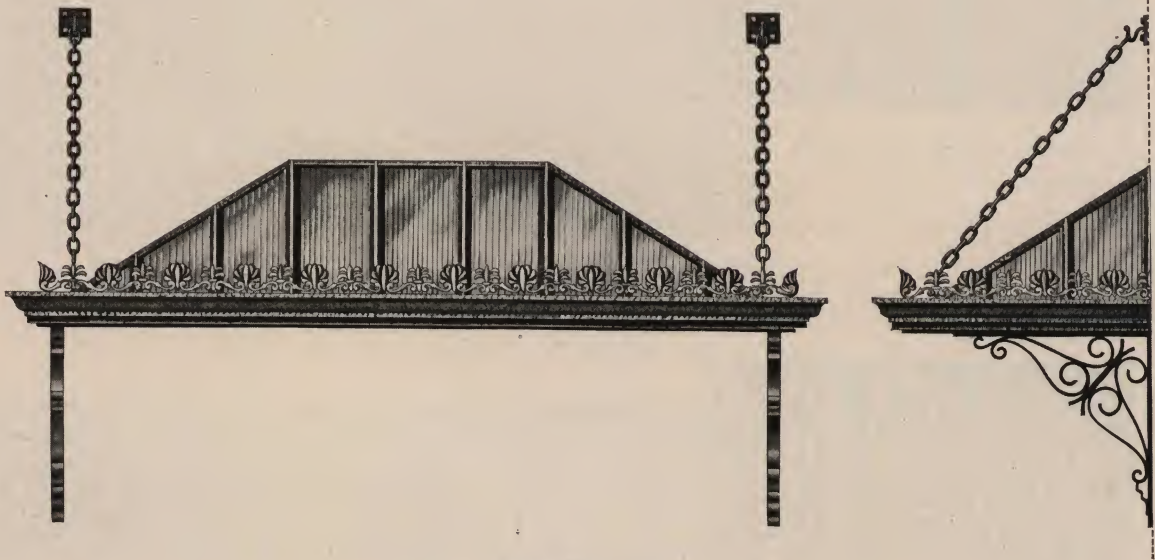
Whenever desirable, we will gladly submit blue-print drawings in connection with engravings of the different members for you or your customers' consideration. This is an excellent way of presenting the matter in a strong manner.



Sheet Metal Marquise or Canopy

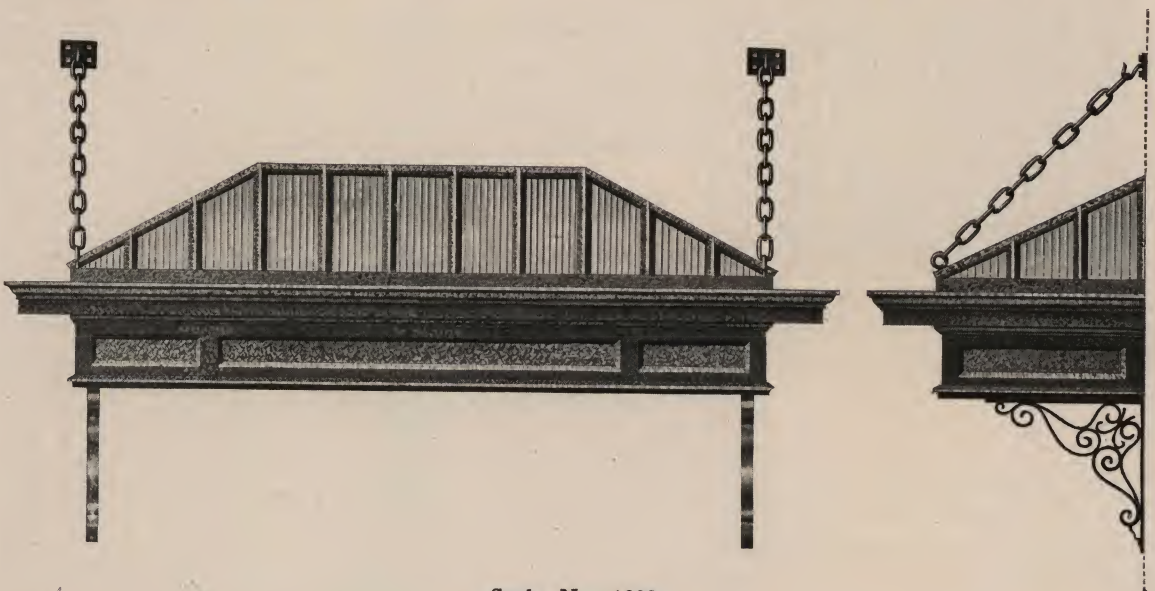
Handsome, massive, ornate effect of wrought or cast iron, for but a fraction of the cost. Easy to erect. No breakage of glass from contraction of metal, as when made of iron. Made for either overhead or column supports.

Any size or style made from plans furnished us, or suggestive drawings and estimates submitted on request for approval.



Style No. 1327

Galvanized steel or copper; stamped zinc cresting; wrought iron brackets and chains. Plain or wired skylight glass. Shipped knocked down in sections convenient for erection. Price according to requirements.

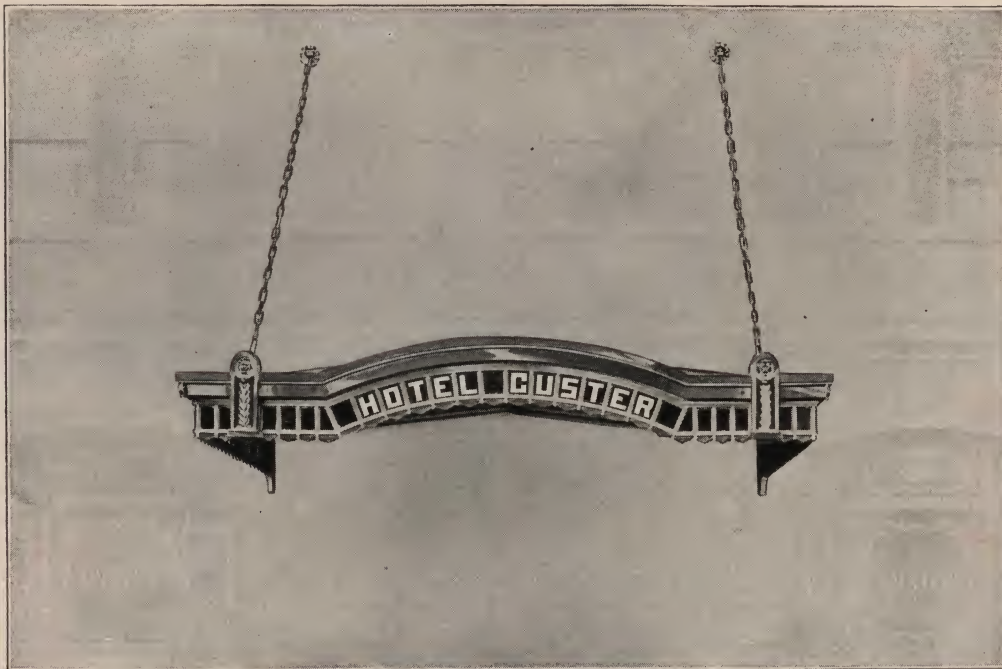


Style No. 1328

Galvanized steel or copper; wrought iron brackets and chain. Plain or wired skylight glass. Shipped knocked down in sections ready for convenient erection. Price according to requirements.

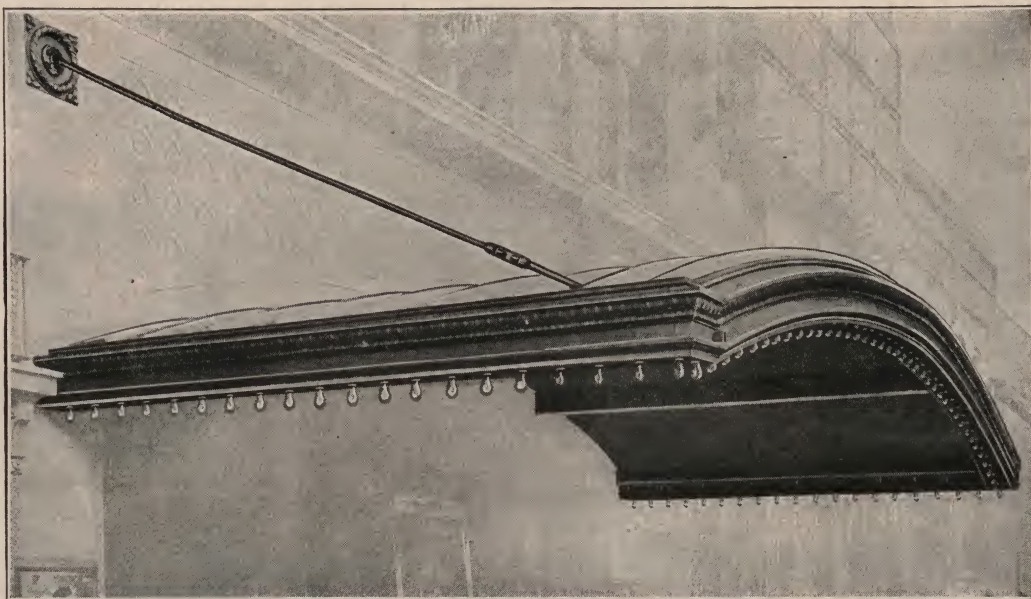
We also make these to architects' details and specifications. You should accompany your request for quotation with a rough sketch including all necessary measurements so it will be possible to quote you intelligently.

SHEET METAL MARQUISE OR CANOPY—Continued



Style No. 1329

The possibilities as to detail and the ability to overcome conditions, is practically unlimited. We follow architects' drawings.



Style No. 1330

The roofs can be glass or metal with paneled ceiling.

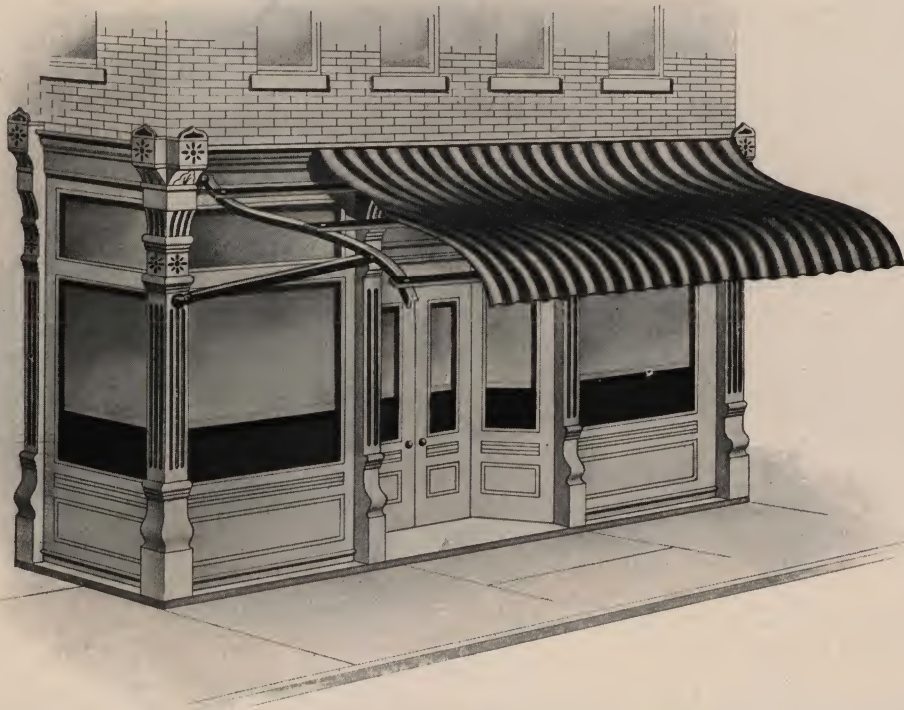
The engravings shown herewith are actual installations and convey only in a limited way an idea of what can be accomplished in this line.

If you will let us know what your building conditions are, with measurements and a general idea of how you wish this to look upon erection, we will have our draftsman make details, etc., showing what we would propose for your further consideration. When we have something that is satisfactory to you, we will quote prices. Our construction will be of such nature that anyone with ordinary mechanical ability can erect from the drawings we furnish. We quote erected when required.



"Standard" Bracket Double Curved Awning

ANGLE IRON BRACKETS, NO PURLINS UNLESS ESPECIALLY CONTRACTED FOR

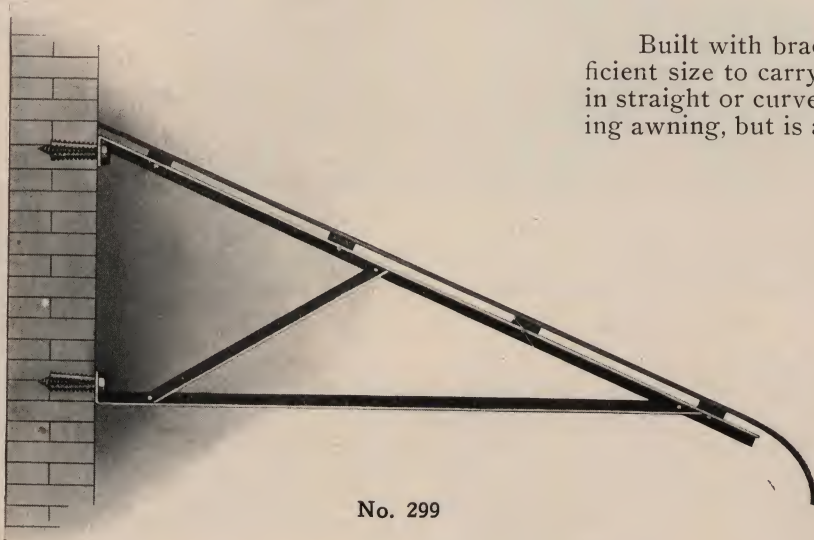


No. 298

Purlins usually of wood purchased locally. Angle iron or pipe purlins furnished when specially ordered. Roofing Galvanized Corrugated Iron lapped at sides, one or two corrugations. Black iron roofing painted (not galvanized) furnished when desired, but not recommended.

Always made of Angle Irons unless specified of pipe, also provision will be made to apply to the building with expansion bolts. We can furnish the necessary bolts to go clear through the wall with the necessary washers, etc.

Built with brackets made from angle and tee iron of a sufficient size to carry awning, and covered with corrugated iron in straight or curved sheets. This makes a very light appearing awning, but is a substantial one in every respect.



No. 299

Price quoted on receipt of specification, which should cover the width of the building, the projection wanted, the spacing where the brackets can be fastened to the building, and whether the corrugated roof is to be straight or curved sheets, galvanized or painted. If curved give the shape.

We strongly recommend the galvanized sheets for the roof.

You should specify whether you want the End Wall Flashing included in estimate covering your needs.

Willis Basement Frames and Sash



Style No. 105

These are the standard manufacture, being the style most commonly used.

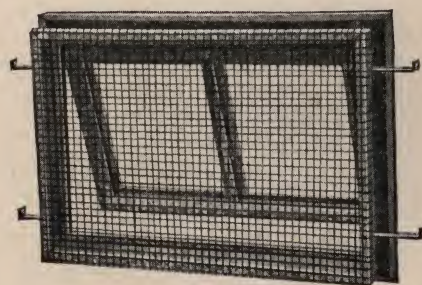
The advantages of using metal in the construction of the window frames and sash for basement openings is apparent to all.

On the back of jambs we rivet metal straps for bricking in wall, these will hold the frame

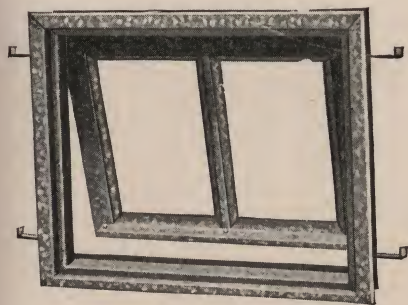
from moving in or out. We provide eyes on the jambs so that the ordinary window screen can be placed in the opening and made fast against the window frame with the hooks on the screen. On the sash we attach hooks so the sash can be held open in the usual manner.

The Style No. 105 is the most economical and is in more general use. The Style No. 106 is the same construction, but has a galvanized 3x3 mesh wire screen attached on the exterior side which serves as a protection against the entrance of any animal and affords some protection from sneaks or mischievous persons.

Glass is held in place by copper lugs and putty. In the price list we do not include the glass. We will furnish the plain window glass whenever required. We have found that the ribbed wire glass is very acceptable for use in basement windows and we will be glad to furnish it at regular market prices. Wired glass is described on page 41.



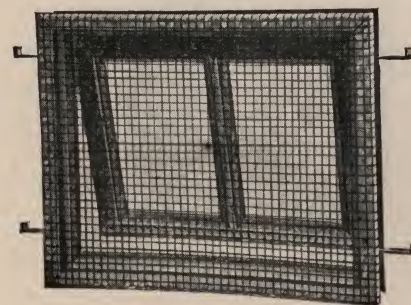
Style No. 106



Style No. 300

These frames and sash differ from the ones above in that the construction is heavier and more substantial. The metal is two gauges heavier and all miters and joints in the construction are riveted in addition to being soldered.

When wanting a product somewhat better than the ordinary and far exceeding wood-



Style No. 301

en construction, you can make no mistake in adopting either of these two types.

The hinges, locks and other features are all of substantial make and are intended for hard usage. All are primed one coat of paint, the nature of which makes the trimming coat adhere to the metal.

When desired we can construct these with a wrought iron guard that is built as part of the window. Prices on application.

List prices are given on page 90.

Will be glad to quote prices on any kind of sheet metal to be employed in the construction. List prices are based on using only first quality galvanized open hearth steel.



WILLIS BASEMENT FRAMES AND SASH—Continued

List Prices

No. Lights	Sizes	Style No. 105	Style No. 106	Style No. 300	Style No. 301
Two	10x12	\$ 4.00	\$ 4.75	\$ 6.00	\$ 7.00
Three	10x12	5.00	6.00	7.75	9.00
Two	10x14	4.25	5.25	6.25	7.25
Three	10x14	5.50	6.75	8.50	10.00
Two	10x16	5.00	6.00	7.50	8.50
Three	10x16	6.00	7.25	9.25	10.50
Two	12x14	5.25	6.25	8.00	9.25
Three	12x14	6.50	8.00	10.00	11.50
Two	12x16	5.00	6.00	8.00	9.00
Three	12x16	6.75	8.50	10.75	12.50
Two	12x18	5.50	6.75	8.50	10.00
Three	12x18	7.25	9.00	11.50	13.50

We will be glad to quote prices on any kind of sheet metal to be employed in the construction. List prices above are based on using only first quality galvanized open hearth steel.

Willis Louvred Frames



Style No. 239

These are used in walls of buildings wherever ventilation may be required and windows do not give the service wanted.

The frames are constructed to build into the walls in the same manner as any window frame.

The construction is heavy and will give lasting service. The louvres are backed with 3x3 mesh No. 18 wire galvanized cloth and this will effectually exclude birds and like animals from entering the building. The entire construction makes them weather proof.

We construct these in copper or any sheet metal and will quote on any metal upon receipt of the specifications. We also build special sizes or to architects' detail and will quote promptly when requested.

Sizes	List Prices
8x12	\$ 2.00
10x12	2.50
12x16	3.00
12x18	3.25
16x20	3.50
16x24	3.75
18x24	4.00
18x30	4.50
24x30	5.00
24x36	6.00
30x30	6.25
30x36	7.00
36x36	9.00
36x40	10.00

We can execute anything in sheet metal. Our plant, machinery and organization is very complete. We want to assure you that we appreciate every opportunity that is given us to quote prices or in the executing of your orders.

OUR REFERENCE FILE

We maintain a catalog file which is intended to cover almost the entire building business. Should you be in doubt as to who manufactures or where to buy some given article, you should write us and we will gladly furnish the information if we possibly can. This will entail no obligation on your part.



Standard Gutters

GALVANIZED OPEN HEARTH STEEL OR TONCAN METAL

Always state gauge and girth of material. Crated 250 feet. Gutters with higher backs will be furnished if you specify this additional.

Also made from copper. Prices upon application.

When ordering miters state whether inside or outside are wanted. The net price of gutters is the same as the list price of gutter per foot. When ordering Style "A" or "B" gutter miters be sure and inform us what the roof pitch is.

Intermediate girths take list of next higher girth. Gutter Braces shown and listed on page 92.

SIZE SPECIFICATION FOR STYLE "A" AND "B"

Girth	10 in.	12 in.	14 in.	15 in.	16 in.	18 in.	20 in.	22 in.	24 in.
Depth	2 in.	3 in.	3½ in.	3½ in.	4 in.	4½ in.	5 in.	5 in.	6 in.
Apron	6 in.	7 in.	8½ in.	9½ in.	10 in.	11½ in.	13 in.	15 in.	16 in.

SIZE SPECIFICATION FOR STYLE "C"

Girth	10 in.	12 in.	14 in.	16 in.	18 in.	20 in.
Projection...	4 in.	5 in.	6 in.	7 in.	8 in.	9 in.
Depth	2½ in.	3¼ in.	3¾ in.	4½ in.	5½ in.	5¾ in.

SIZE SPECIFICATION FOR STYLE "D"

Girth	10 in.	12 in.	14 in.	16 in.	18 in.	20 in.
Projection ..	3 in.	4 in.	5 in.	6 in.	7 in.	8 in.
Depth	2¾ in.	3¼ in.	3¾ in.	4¾ in.	5 in.	5½ in.

SIZE SPECIFICATION FOR STYLE "E"

Girth	10 in.	12 in.	14 in.	16 in.	18 in.	20 in.
Projection ..	3 in.	4 in.	5 in.	6 in.	7 in.	8 in.
Depth	2½ in.	3¼ in.	3¾ in.	4½ in.	5½ in.	5¾ in.

SIZE SPECIFICATION FOR STYLE "F"

Girth	10 in.	12 in.	14 in.	16 in.	18 in.	20 in.
Projection ..	3 in.	4 in.	5 in.	6 in.	7 in.	8 in.
Depth	2½ in.	3 in.	3½ in.	4 in.	4½ in.	5¼ in.

SIZE SPECIFICATION FOR STYLE "G"

Girth	10 in.	11 in.	12 in.	13 in.	14 in.	15 in.	16 in.	18 in.	20 in.
Projection ..	3 in.	3½ in.	4 in.	4½ in.	5 in.	5½ in.	6 in.	7 in.	8 in.
Depth	2¾ in.	3 in.	3¼ in.	3¾ in.	4 in.	4¼ in.	4½ in.	5½ in.	5¾ in.

SIZE SPECIFICATION FOR STYLE "H"

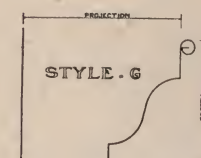
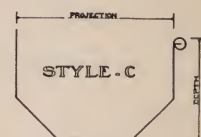
Girth	10 in.	12 in.	14 in.	16 in.	18 in.	20 in.
Projection ..	3 in.	4 in.	5 in.	6 in.	7 in.	8 in.
Depth	2½ in.	3¼ in.	3¾ in.	4½ in.	5½ in.	5¾ in.

SIZE SPECIFICATION FOR STYLE "J"

Girth	10 in.	12 in.	14 in.	16 in.	18 in.	20 in.
Projection ..	3 in.	4 in.	5 in.	6 in.	7 in.	8 in.
Depth	2¾ in.	3¾ in.	4 in.	4½ in.	5½ in.	5¾ in.

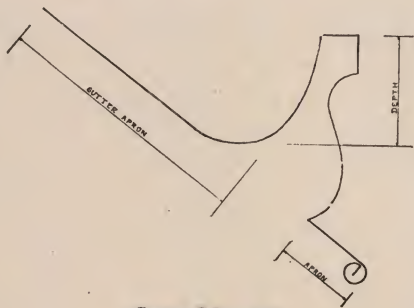
List Prices Per Lineal Foot

Girth	10 in.	11 in.	12 in.	13 in.	14 in.	15 in.	16 in.	18 in.	20 in.	22 in.	24 in.
No. 29 Gauge.....	\$.25	\$.28	\$.30	\$.33	\$.35	\$.37	\$.40	\$.45	\$.50	\$.55	\$.60
No. 28 Gauge.....	.27	.30	.32	.35	.37	.39	.44	.49	.54	.59	.64
No. 27 Gauge.....	.29	.32	.34	.37	.39	.41	.48	.53	.58	.63	.68
No. 26 Gauge.....	.31	.33	.36	.39	.41	.43	.52	.57	.62	.67	.72
No. 24 Gauge.....	.43	.46	.48	.51	.53	.55	.70	.75	.80	.85	.90





Willis Roof Gutters



Style No. 162



Style No. 198

Willis Moulded Face Roof Gutters

List Prices Per Lineal Foot

Girth	Apron Nos. 162 and 198	Depth		Gutter Apron		No. 29 Gauge	No. 28 Gauge	No. 26 Gauge	No. 24 Gauge
		No. 162	No. 198	No. 162	No. 198				
18 inch	1¼ inch	2¼ inch	2 inch	7¼ inch	6½ inch	\$.45	\$.49	\$.57	\$.75
20 inch	1½ inch	2½ inch	2¼ inch	7¾ inch	7⅞ inch	.50	.54	.62	.80
24 inch	2 inch	3 inch	2¾ inch	9¾ inch	8¾ inch	.60	.64	.72	.90
28 inch	3 inch	3½ inch	3¼ inch	11½ inch	11 inch	.70	.74	.82	1.18
30 inch	3½ inch	3¾ inch	3½ inch	12½ inch	12 inch	.75	.78	.86	1.22

Intermediate Girths take list of next higher Girth

We can furnish Style No. 198 with inner lining in any grade of tin plate. Use gutter braces to secure the best results.

In ordering miters state whether for inside or outside corners and give pitch of roof. The net price each for miters is the same as list price per foot for gutter.

Makes a very neat finish for the eave, and saves three courses of shingles all around the eaves. When the tinner goes to put up this gutter, he can complete the whole job, as he does not have to wait for the carpenter to lay any shingles. The fall is secured by forcing the apron down into the moulding at the low point and raising the apron up at the high point. Twenty-four inch is the standard size for main roof work.

Willis Ogee Roof Gutter

Style No. 163



Style No. 163

Girth	10 in.	12 in.	14 in.	16 in.	18 in.	20 in.	24 in.
Apron	5½ in.	6¾ in.	8½ in.	9¾ in.	11½ in.	12¾ in.	15¾ in.
Depth	2½ in.	2¾ in.	3½ in.	3½ in.	3½ in.	4¼ in.	5 in.

List Prices Per Foot

Girth	10 in.	12 in.	14 in.	16 in.	18 in.	20 in.	24 in.
No. 29 Gauge....	\$.25	\$.30	\$.35	\$.40	\$.45	\$.50	\$.60
No. 28 Gauge....	.27	.32	.37	.44	.49	.54	.64
No. 27 Gauge....	.29	.34	.39	.48	.53	.58	.68
No. 26 Gauge....	.31	.36	.41	.52	.57	.62	.72
No. 24 Gauge....	.43	.48	.53	.70	.75	.80	.90

Intermediate Girths take list of next higher Girth

When ordering miters state whether inside or outside are wanted and give pitch of roof.

The net price each of miters is the same as the list price of gutter per foot.

This style is used the same as "A" or "B", but is much neater.

Also made from Copper. Prices upon application.

Gutter Braces

No. 331.	List price per doz., Galvanized Sheet Metal.....	\$.50
No. 332.	List price per doz., Galvanized Band Iron.....	.85
No. 333.	List price per doz., Galvanized Band Iron.....	.80

Made from galvanized materials. Holes punched for bolts and nails.



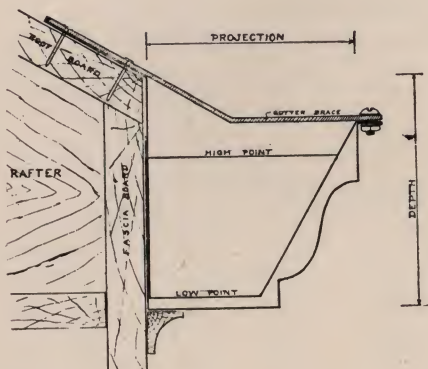
No. 331 No. 332 No. 333

Willis Double Gutters

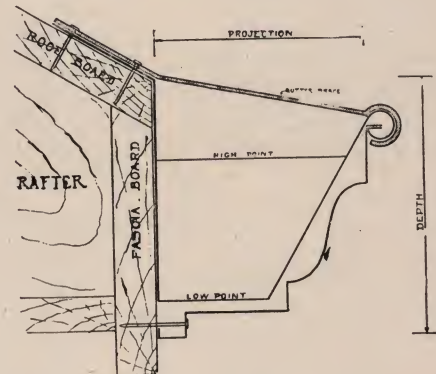
ALWAYS STATE GAUGE WANTED

Galvanized Open Hearth Steel or Galvanized Toncan Metal

Also with TIN PLATE for lining and in COPPER



Style No. 286



Style No. 287

We build these gutters to architects' details or we will have our drafting department detail special gutters to your specification.

Special sizes and gauges quoted upon application.

The No. 286 is gutter that is almost entirely fabricated in our shop before shipment and only requires that you make a few joints at the job. The No. 287 comes in a K. D. form, the mouldings are formed, the lining is broke to grade from high to low points and the miters are cut but nothing is assembled as in the No. 286.

To manufacture or quote on either styles of this gutter you should always send us the plans or rough pencil sketch, giving the measurements of the building on the face of fascia board of eaves and showing the correct location of the down spouts.

Style	Projection	Depth	Roof Apron	Galv. O. H. Steel Galv. Toncan Metal				Galv. Moulding and Tin Gutter				Copper	
				No. 29	No. 28	No. 26	No. 24	15 lb. Coat	20 lb. Coat	30 lb. Coat	40 lb. Coat	14 oz.	16 oz.
287	3½ in.	4½ in.	2 in.	\$.22	\$.24	\$.27	\$.34	\$.23	\$.25	\$.28	\$.35	\$1.10	\$1.25
287	4½ in.	5½ in.	2 in.	.24	.26	.29	.37	.25	.27	.30	.38	1.20	1.40
287	5½ in.	6½ in.	2 in.	.29	.31	.34	.44	.30	.32	.36	.47	1.40	1.60
287	6½ in.	7½ in.	2 in.	.31	.34	.42	.52	.32	.35	.44	.57	1.65	1.90
286	3½ in.	4 in.	2 in.	.30	.32	.36	.40	.32	.34	.38	.42	1.30	1.50
286	4½ in.	5 in.	2 in.	.36	.40	.45	.50	.38	.42	.47	.52	1.40	1.65
286	5½ in.	6 in.	2 in.	.40	.46	.50	.55	.42	.48	.52	.58	1.60	1.85
286	6½ in.	7 in.	2 in.	.48	.54	.60	.66	.50	.56	.62	.70	1.85	2.10

Miters—For Style No. 287. The net price will be twice the list price per foot for the gutter. If the miters are to be soldered together the charge will be three times the list price of gutter.

Miters—For Style No. 286. The net price will be three times list price per foot for the gutter.

Specify if you want us to furnish gutter braces. They are illustrated on page 92.



Eave Troughs: Galvanized O. H. Steel, Toncan Metal, Copper

LAP JOINT—SINGLE BEAD

GALVANIZED STEEL. List Prices Per Lineal Foot. **Toncan Metal**

Size, Inches	3	3½	4	4½	5	6	7	8	9	10
No. 29 Gauge..	\$.13	\$.14	\$.16	\$.18	\$.19	\$.23	\$.27	\$.31	\$.36	\$.40
No. 28 Gauge..	.15	.16	.18	.20	.21	.25	.30	.34	.38	.42
No. 27 Gauge..	.17	.18	.20	.22	.23	.28	.32	.37	.42	.46
No. 26 Gauge..	.19	.20	.22	.24	.25	.30	.35	.40	.45	.50
No. 24 Gauge..	....	....	.28	.30	.31	.37	.44	.50	.56	.62

SINGLE BEAD—LAP JOINT

COLD ROLLED COPPER List Prices Per Lineal Foot

Size, Inches	3	3½	4	5	6	7	8	9	10
14 ounce.....	\$.31	\$.36	\$.40	\$.50	\$.61	\$.71	\$.82	\$.91	\$1.00
16 ounce.....	.33	.39	.44	.54	.66	.77	.88	.98	1.08
20 ounce.....	.41	.49	.55	.67	.83	.96	1.10	1.22	1.34

SLIP JOINT—SINGLE BEAD

GALVANIZED STEEL. List Prices Per Lineal Foot. **Toncan Metal**

Size, Inches	3	3½	4	4½	5	6	7	8	9	10
No. 29 Gauge..	\$.14	\$.15	\$.17	\$.19	\$.20	\$.25	\$.29	\$.33	\$.38	\$.42
No. 28 Gauge..	.16	.17	.19	.21	.22	.27	.32	.36	.40	.44
No. 27 Gauge..	.18	.19	.21	.23	.24	.30	.34	.39	.44	.48
No. 26 Gauge..	.20	.21	.23	.25	.26	.32	.37	.42	.47	.52
No. 24 Gauge..	....	....	.29	.31	.32	.39	.46	.52	.58	.64

SINGLE BEAD—SLIP JOINT

COLD ROLLED COPPER List Prices Per Lineal Foot

Size, Inches	3	3½	4	5	6	7	8	9	10
14 ounce.....	\$.34	\$.39	\$.43	\$.53	\$.64	\$.74	\$.85	\$.96	\$1.06
16 ounce.....	.36	.42	.47	.57	.69	.80	.91	1.03	1.14
20 ounce.....	.45	.53	.59	.71	.87	1.00	1.14	1.28	1.42

LAP JOINT—DOUBLE BEAD

GALVANIZED STEEL. List Prices Per Lineal Foot. **Toncan Metal**

Size, Inches	3	3½	4	4½	5	6	7	8	9	10
No. 29 Gauge..	\$.16	\$.17	\$.19	\$.21	\$.22	\$.26	\$.30	\$.34	\$.39	\$.43
No. 28 Gauge..	.18	.19	.21	.23	.24	.28	.33	.37	.41	.45
No. 27 Gauge..	.20	.21	.23	.25	.26	.31	.35	.40	.45	.49
No. 26 Gauge..	.22	.23	.25	.27	.28	.33	.38	.43	.48	.53
No. 24 Gauge..	....	....	.31	.33	.34	.40	.47	.53	.59	.65

DOUBLE BEAD—LAP JOINT

COLD ROLLED COPPER List Prices Per Lineal Foot

Size, Inches	3	3½	4	5	6	7	8	9	10
14 ounce.....	\$.37	\$.42	\$.46	\$.56	\$.67	\$.77	\$.88	\$1.00	\$1.12
16 ounce.....	.39	.45	.50	.60	.72	.83	.94	1.07	1.20
20 ounce.....	.49	.57	.63	.75	.91	1.04	1.18	1.34	1.50

SLIP JOINT—DOUBLE BEAD

GALVANIZED STEEL. List Prices Per Lineal Foot. **Toncan Metal**

Size, Inches	3	3½	4	4½	5	6	7	8	9	10
No. 29 Gauge..	\$.17	\$.18	\$.20	\$.22	\$.23	\$.28	\$.32	\$.36	\$.41	\$.45
No. 28 Gauge..	.19	.20	.22	.24	.25	.30	.35	.39	.43	.47
No. 27 Gauge..	.21	.22	.24	.26	.27	.33	.37	.42	.47	.51
No. 26 Gauge..	.23	.24	.26	.28	.29	.35	.40	.45	.50	.55
No. 24 Gauge..	....	....	.32	.34	.35	.42	.49	.55	.61	.67

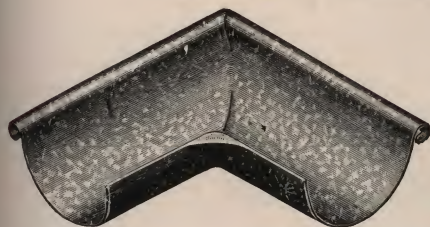
DOUBLE BEAD—SLIP JOINT

COLD ROLLED COPPER List Prices Per Lineal Foot

Size, Inches	3	3½	4	5	6	7	8	9	10
14 ounce.....	\$.40	\$.45	\$.49	\$.59	\$.70	\$.80	\$.91	\$1.05	\$1.18
16 ounce.....	.42	.48	.53	.63	.75	.86	.97	1.12	1.26
20 ounce.....	.53	.61	.67	.79	.95	1.08	1.22	1.40	1.58



Miters: Galvanized Steel, Toncan Metal, Copper



SINGLE BEAD—LAP JOINT List Prices Per Dozen

Size, Inches	3½	4	4½	5	6	7	8
No. 29 Gauge.....	\$3.25	\$3.50	\$4.00	\$4.00	\$5.00	\$6.50	\$8.00
No. 28 Gauge.....	3.50	3.75	4.25	4.25	5.40	7.00	8.50
No. 27 Gauge.....	3.75	4.00	4.50	4.50	5.75	7.50	9.00
No. 26 Gauge.....	4.00	4.25	4.75	4.75	6.00	8.00	9.50
No. 24 Gauge.....	4.75	5.50	6.50	6.50	7.50	9.00	11.00

DOUBLE BEAD—LAP JOINT AND SINGLE BEAD—SLIP JOINT

Size, Inches	3½	4	4½	5	6	7	8
No. 29 Gauge.....	\$4.25	\$4.50	\$5.00	\$5.00	\$6.00	\$ 7.50	\$ 9.00
No. 28 Gauge.....	4.50	4.75	5.25	5.25	6.40	8.00	9.50
No. 27 Gauge.....	4.75	5.00	5.50	5.50	6.75	8.50	10.00
No. 26 Gauge.....	5.00	5.25	5.75	5.75	7.00	9.00	10.50
No. 24 Gauge.....	5.75	6.50	7.50	7.50	8.50	10.00	12.00

DOUBLE BEAD—SLIP JOINT

Size, Inches	3½	4	4½	5	6	7	8
No. 29 Gauge.....	\$5.25	\$5.50	\$6.00	\$6.00	\$7.00	\$ 8.50	\$10.00
No. 28 Gauge.....	5.50	5.75	6.25	6.25	7.40	9.00	10.50
No. 27 Gauge.....	5.75	6.00	6.50	6.50	7.75	9.50	11.00
No. 26 Gauge.....	6.00	6.25	6.75	6.75	8.00	10.00	11.50
No. 24 Gauge.....	6.75	7.50	8.50	8.50	9.50	11.00	13.00

When ordering Slip Joint Mitres, state whether right or left hand is wanted, and whether for "Inside" or "Outside" corner; otherwise half right and half left, and half "inside" and half "outside" corner mitres will be supplied.

SINGLE BEAD—LAP JOINT

COLD ROLLED COPPER List Prices Each

Size, inches	3½	4	4½	5	6	7	8
14 ounce..	\$.80	\$.85	\$.90	\$.90	\$.95	\$1.00	\$1.20
16 ounce..	.90	.95	1.00	1.00	1.05	1.15	1.35

Double Bead, add 25 cents each

SINGLE BEAD—SLIP JOINT

COLD ROLLED COPPER List Prices Each

Size, inches	3½	4	4½	5	6	7	8
14 ounce..	\$.90	\$.95	\$1.00	\$1.00	\$1.05	\$1.15	\$1.35
16 ounce..	1.00	1.05	1.10	1.10	1.15	1.30	1.50

Double Bead, add 25 cents each



If "A" or "C" is ordered single bead specify either right hand or left hand. As shown here, they are right hand.

GALVANIZED STEEL. List Prices Per Dozen. Toncan Metal

No. 29 Gauge	Size, inches	3	3½	4	4½	5	6	7	8
"A" Ends, Single Bead.....		\$2.50	\$2.50	\$2.70	\$3.00	\$3.00	\$3.60	\$4.00	\$4.20
"A" Ends, Double Bead.....		3.10	3.10	3.30	3.60	3.60	4.30	4.75	5.00
"B" Drops only.....		1.00	1.10	1.20	1.30	1.30	1.60	-----	-----
"C" Ends only.....		1.30	1.30	1.50	1.60	1.60	1.90	2.30	2.80
No. 28 Gauge									
"A" Ends, Single Bead.....		2.75	2.75	3.00	3.30	3.30	3.95	4.40	4.65
"A" Ends, Double Bead.....		3.40	3.40	3.65	3.95	3.95	4.75	5.25	5.50
"B" Drops only.....		1.10	1.20	1.35	1.45	1.45	1.75	-----	-----
"C" Ends only.....		1.45	1.45	1.65	1.75	1.75	2.10	2.55	3.10
No. 26 Gauge									
"A" Ends, Single Bead.....		3.10	3.10	3.40	3.75	3.75	4.50	5.00	5.25
"A" Ends, Double Bead.....		3.90	3.90	4.15	4.50	4.50	5.40	5.95	6.25
"B" Drops only.....		1.25	1.40	1.50	1.65	1.65	2.00	-----	-----
"C" Ends only.....		1.65	1.65	1.90	2.00	2.00	2.40	2.90	3.50

COPPER END PIECES

COLD ROLLED COPPER List Prices each

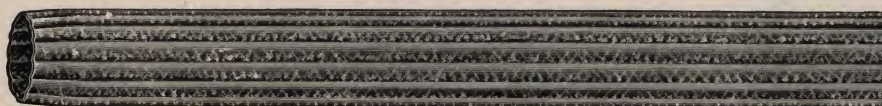
Size, inches	2	2½	3	3½	4	4½	5	6	7	8
"A" Ends, Single Bead.....	\$ ----	\$ ----	\$.95	\$1.00	\$1.05	\$1.10	\$1.10	\$1.15	\$1.30	\$1.50
"A" Ends, Double Bead.....	-----	-----	1.20	1.25	1.30	1.35	1.35	1.40	1.55	1.75
"B" Drops only.....	.35	.40	.40	.45	.45	.48	.48	.50	.60	.70
"C" Ends only.....	-----	-----	.40	.45	.45	.48	.48	.50	.60	.70

Galvanized Conductor Pipe

ALL SIZES MADE IN 10 FOOT LENGTHS

Corrugated Round

Plain Round



GALVANIZED STEEL

List Prices Per Lineal Foot

Size, Inches	1½	2	2½	3	3½	4	5	6
No. 29 Gauge.....	\$.11	\$.13	\$.14	\$.15	\$.18	\$.20	\$.25	\$.30
No. 28 Gauge.....	.13	.15	.16	.17	.20	.23	.28	.33
No. 27 Gauge.....	---	.17	.18	.19	.22	.25	.31	.37
No. 26 Gauge.....	---	.19	.20	.21	.24	.28	.34	.40
No. 24 Gauge.....	---	---	---	.27	.31	.35	.44	.52

Toncan Metal Conductor Pipe Same price list as given above

MADE FROM COLD ROLLED COPPER

List Prices Per Lineal Foot

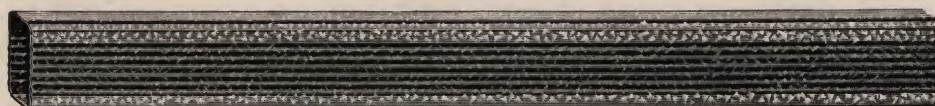
Size, Inches	1½-2	2½-3	3½-4	4½-5	6
14 ounce.....	\$.40	\$.50	\$.65	\$.85	\$1.00
16 ounce.....	.43	.54	.70	.92	1.08
20 ounce.....	.54	.67	.88	1.15	1.35

Galvanized Conductor Pipe

IN FULL 10 FOOT LENGTHS

Perfectly straight. No cross seams. Crated 250 feet

Corrugated Square



GALVANIZED STEEL

List Prices Per Lineal Foot

Size, Inches	2	3	4	5
No. 29 Gauge.....	\$.15	\$.17	\$.22	\$.27
No. 28 Gauge.....	.17	.19	.25	.30
No. 27 Gauge.....	.19	.21	.27	.33
No. 26 Gauge.....	.21	.23	.30	.36
No. 24 Gauge.....	---	.29	.37	.46
Standard measurements.....	1¾x2¼	2¾x3¼	2¾x4¼	3¾x5

Perfectly formed, seams cannot come apart

Toncan Metal Conductor Pipe Same list as given above

MADE FROM COLD ROLLED COPPER

List Prices Per Lineal Foot

Size, Inches	2	3	4	5
14 ounce.....	\$.42	\$.52	\$.67	\$.87
16 ounce.....	.45	.56	.72	.94
20 ounce.....	.56	.70	.90	1.18

Galvanized Elbows and Shoes

PLAIN ROUND AND CORRUGATED



No. 1



No. 2



No. 3



Shoe

Size, Inches	2	3	4	5	6
Galvanized Steel Elbows	\$ 3.60	\$ 4.32	\$ 7.20	\$15.00	\$18.00
Galvanized Steel Shoes	4.80	5.76	9.00	18.00	21.60
Galvanized Armco Iron or Toncan Metal Elbows	4.80	5.76	9.00	17.40	21.00
Galvanized Armco Iron or Toncan Metal Shoes	6.00	7.20	10.80	19.80	24.00
14 ounce Copper Elbows	8.40	10.80	16.20	24.00	34.20
14 ounce Copper Shoes	9.00	12.00	18.00	27.00	37.80
16 ounce Copper Elbows	9.00	12.00	18.00	27.00	37.80
16 ounce Copper Shoes	10.20	13.20	19.80	30.00	42.00

Galvanized Corrugated Square Elbows

List Prices Per Dozen—Styles A and B



Style A

Style, Inches	2	3	4	5
Galvanized Steel Elbows	\$ 4.80	\$ 6.00	\$ 7.80	\$12.00
Galvanized Steel Shoes	6.00	7.20	9.60	15.00
Armco Iron and Toncan Metal Elbows	7.20	8.40	10.80	16.20
Armco Iron and Toncan Metal Shoes	9.00	10.20	13.20	19.20
14 ounce Copper Elbows	10.20	13.20	19.20	28.80
14 ounce Copper Shoes	10.80	14.40	21.60	33.00
16 ounce Copper Elbows	10.80	14.40	21.60	33.00
16 ounce Copper Shoes	12.60	16.20	24.00	36.00



Style B

Improved Galvanized Cut-Off

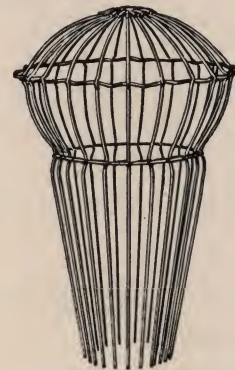


No Solder Used. No Joints to Break
Best on Market

Price List

3 inch, per dozen, galvanized.....	\$ 8.00
4 inch, per dozen, galvanized.....	11.00
5 inch, per dozen, galvanized.....	20.00
6 inch, per dozen, galvanized.....	24.00
Also made in Toncan Metal	

The Standard Galvanized Conductor Strainer

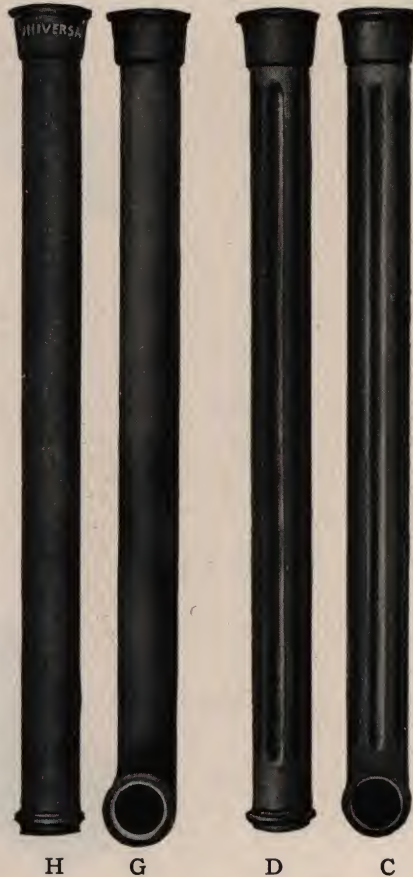


Price List

2 inch diameter, per dozen.....	\$1.50
3 inch diameter, per dozen.....	2.00
4 inch diameter, per dozen.....	3.00
5 inch diameter, per dozen.....	3.50
6 inch diameter, per dozen.....	4.00



Cast Iron Boots and Sewer Connections



PRICE LIST. All 4½ ft. long

For other than standard lengths figure same rate per foot plus 20 per cent for alteration of patterns.

	No. H. & G.	No. D. & C.
3 inch. Each.....	\$3.20	\$3.40
4 inch. Each.....	4.00	4.20
5 inch. Each.....	4.70	5.20
6 inch. Each.....	6.00	6.20

"Never-Slip" Malleable Hooks

For Plain Round or Corrugated Conductor



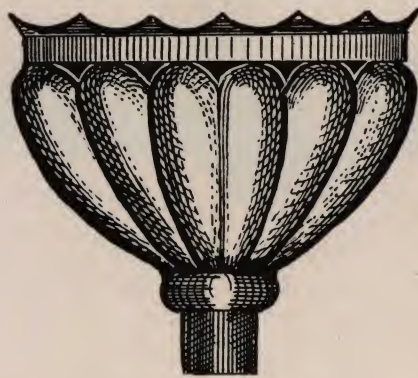
PRICE LIST

2 inch, per 100.....	\$1.75
3 inch, per 100.....	2.75
4 inch, per 100.....	4.25
5 inch, per 100.....	6.00
6 inch, per 100.....	7.50

For wood and brick. Also hooks for square conductor.

Conductor Heads

MADE ANY DESIGN WANTED



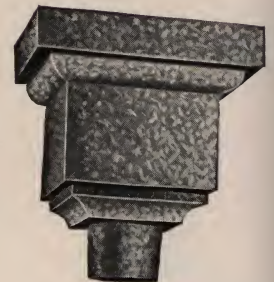
No. 339



No. 336



No. 337



No. 338



No. 334



No. 335

PRIST LIST

Size	STYLE					
	334	335	336	337	338	339
3 in.....	\$1.50	\$1.75	\$2.00	\$4.00	\$3.50	\$4.50
4 in.....	2.00	2.25	2.50	4.50	4.00	5.00
5 in.....	2.50	2.75	3.00	5.00	4.50	5.50
6 in.....	3.00	3.25	3.50	5.50	5.00	6.00



Ridge and Hip Roll—Ridge and Hip Cap

GALVANIZED O. H. STEEL AND TONCAN METAL



With Nailing Flange. Made in 10-foot Lengths. Crated 250 feet

List Prices Per Lineal Foot

Girth, inches	6	7	8	10	12	14
No. 29 Gauge.....	\$.13	\$.14	\$.16	\$.19	\$.23	\$.28
No. 28 Gauge.....	.15	.16	.18	.21	.25	.30
No. 27 Gauge.....	.17	.18	.20	.23	.27	.32
No. 26 Gauge.....	.19	.20	.22	.25	.29	.34
No. 24 Gauge.....	.25	.26	.28	.31	.35	.40

Galvanized Formed and Rolled Valley

OPEN HEARTH STEEL OR TONCAN METAL



No. 144. Galvanized Valley

Will furnish formed to your drawing without additional charge.

No. 145. Roll Valley

In Rolls of 50 feet and 100 feet lengths.

List Prices Per Lineal Foot

Girth, inches	10	12	14	16	20	24	28	30
No. 29 Gauge.....	\$.12½	\$.15	\$.17½	\$.20	\$.25	\$.30	\$.35	\$.37
No. 28 Gauge.....	.14½	.17	.19½	.22	.27	.32	.37	.39
No. 27 Gauge.....	.16½	.19	.21½	.24	.29	.34	.39	.41
No. 26 Gauge.....	.18½	.21	.23½	.26	.31	.36	.41	.43
No. 24 Gauge.....	.24½	.27	.29½	.32	.37	.42	.47	.49

Tin Plate, in Rolls

FOR GUTTERS AND VALLEYS

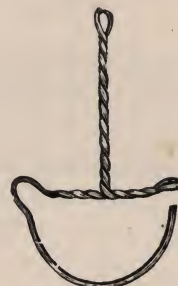
ALL VALLEY IS FURNISHED DOUBLE CROSS LOCKED, UNLESS OTHERWISE ORDERED. BE SURE YOUR SPECIFICATIONS ARE CLEAR

List Prices Per 100 Lineal Foot

Made from the following Terne Plates		Double Crossed Locked, not Soldered			Single Crossed Locked, Soldered		
		Not Ptd.	Ptd. One Side	Ptd. Two Sides	Not Ptd.	Ptd. One Side	Ptd. Two Sides
Allegheny (oil finish)	10 inch.....	\$ 4.90	\$ 5.10	\$ 5.30	\$ 5.20	\$ 5.40	\$ 5.60
	14 inch.....	7.00	7.30	7.60	7.40	7.70	8.00
	20 inch.....	9.90	10.30	10.70	10.50	10.90	11.30
	28 inch.....	14.00	14.50	15.00	14.80	15.30	15.80
Lionel Old Style Dry Finish	10 inch.....	6.30	6.50	6.70	6.60	6.80	7.00
	14 inch.....	8.90	9.20	9.50	9.30	9.60	9.90
	20 inch.....	12.60	13.00	13.40	13.20	13.60	14.00
	28 inch.....	17.80	18.30	18.80	18.60	19.10	19.60
Old Reliable (Redipped)	10 inch.....	8.00	8.20	8.40	8.30	8.50	8.70
	14 inch.....	11.40	11.70	12.00	11.80	12.10	12.40
	20 inch.....	16.00	16.40	16.80	16.60	17.00	17.40
	28 inch.....	22.80	23.30	23.80	23.60	24.10	24.60
Scott's Extra Coated Palm Oil Finish	10 inch.....	9.00	9.20	9.40	9.30	9.50	9.70
	14 inch.....	12.50	12.80	13.10	12.90	13.20	13.50
	20 inch.....	17.00	17.40	17.80	17.40	17.80	18.20
	28 inch.....	23.70	24.20	24.70	24.50	25.00	25.50



Eave Trough Hangers



STANDARD WIRE HANGERS

Size, inches	3½	4	4½	5	6	7	8
Single Bead, per gross.....	\$2.75	\$2.75	\$3.00	\$3.00	\$3.50	\$4.00	\$4.50
Double Bead, per gross.....	3.00	3.00	3.25	3.25	3.75	4.25	4.75

STANDARD STEEL HANGERS

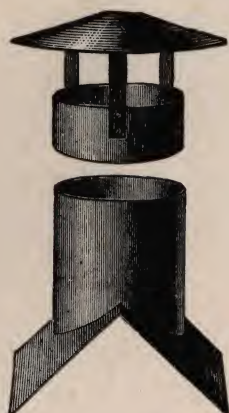
With rods and nuts, complete

Size, inches	3½	4	4½	5	6	7	8
Single Bead, per gross.....	\$4.00	\$4.25	\$4.35	\$4.50	\$5.00	\$6.00	\$8.00
Double Bead, per gross.....	4.25	4.50	4.60	4.75	5.25	6.25	8.25

STANDARD STEEL HANGERS

With straps riveted to cross bar, complete

Size, inches	3½	4	4½	5	6	7	8
Single Bead, per gross.....	\$3.50	\$3.75	\$3.85	\$4.00	\$4.50	\$5.50	\$7.50
Double Bead, per gross.....	3.75	4.00	4.10	4.25	4.75	5.75	7.75

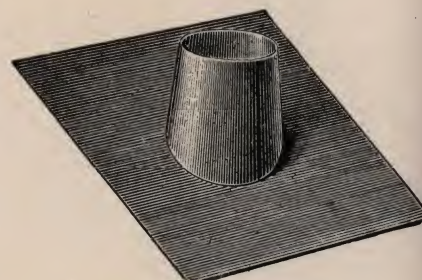


No. 148
Roof Saddle

Roof Shields, Saddles and Chimney Caps

Made in Galvanized Open Hearth Steel, Toncan Metal or Copper. Prices quoted upon receipt of information as to the size of pipe, the length of pipe, the quantity, the material to be employed, the size of roof shield if other than standard, whether they are to be of the saddle or shield type and the pitch of the roof.

Will construct anything in this line to detail.



No. 199. Roof Shield

Standard Speaking Tube

PRICE LIST

1 inch, per foot.....	\$.03
1 inch, square elbows, per dozen.....	.60
1 inch, stamped elbows, per dozen.....	.90

Speaking Tube Whistles

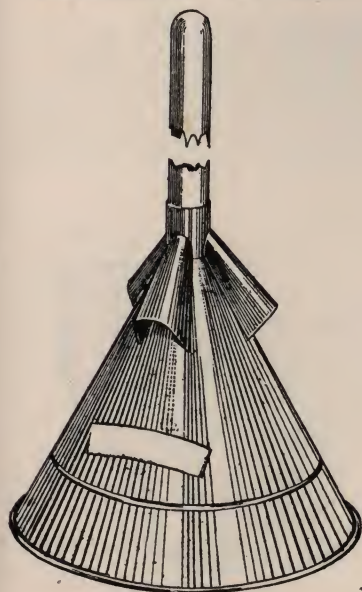
PER DOZEN

With Indicator, plain.....	\$4.00
With Indicator, porcelain.....	4.50
With Indicator, nicked.....	7.00





The "Economy" Washer



No. 161

Made from—
I. C. Bright Charcoal Tin, per dozen.....\$12.00
IXX Bright Charcoal Tin, per dozen..... 13.00
The above price includes handles.

Round and Flat Head Stove Bolts

Price per 100

Length Inches	1/8 and 5/32	3/16	7/32 and 1/4	5/16	3/8	7/16	1/2
3/8	\$.85	\$.85	\$ 1.20	\$ 1.75	\$ 2.65		
1/2	.85	.85	1.20				
5/8	.85	.85	1.20				
3/4	.85	.85	1.20	1.75	2.65		
7/8	.90	.90	1.25	1.80	2.70		
1	.90	.90	1.30	1.85	2.75	7.30	9.50
1 1/8	.95	.95	1.35	1.90	2.85	7.30	9.50
1 1/4	1.00	1.00	1.40	1.95	2.90	7.30	9.50
1 3/8	1.05	1.05	1.45	2.00	3.00	7.30	9.50
1 1/2	1.10	1.10	1.50	2.05	3.10	7.30	9.50
1 3/4	1.15	1.15	1.55	2.15	3.20	7.50	9.80
2	1.20	1.20	1.60	2.30	3.40	7.70	10.10
2 1/4		1.25	1.70	2.40	3.60	7.90	10.35
2 1/2		1.30	1.80	2.50	3.80	8.15	10.65
2 3/4		1.40	1.90	2.60	4.00	8.35	10.90
3		1.50	2.00	2.70	4.20	8.55	11.20
3 1/4		1.60	2.10	2.85	4.40	8.75	11.50
3 1/2		1.70	2.20	3.00	4.60	8.95	11.75
3 3/4		1.80	2.30	3.15	4.80	9.15	12.00
4		1.90	2.40	3.30	5.00	9.40	12.30
4 1/4		2.00	2.50	3.45	5.20	9.60	12.60
4 1/2		2.10	2.60	3.60	5.40	9.80	12.90
4 3/4		2.20	2.70	3.75	5.60	10.00	13.15
5		2.30	2.85	3.90	5.80	10.25	13.45
5 1/4		2.40	3.00	4.10	6.00	10.45	13.73
5 1/2		2.50	3.15	4.30	6.20	10.65	14.00
5 3/4		2.60	3.30	4.50	6.40	10.85	14.28
6		2.75	3.45	4.70	6.60	11.05	14.55
6 1/4		2.90	3.60	4.90	6.80	11.30	14.83
6 1/2		3.05	3.75	5.10	7.00	11.50	15.10

Tin and Galvanized Flashing

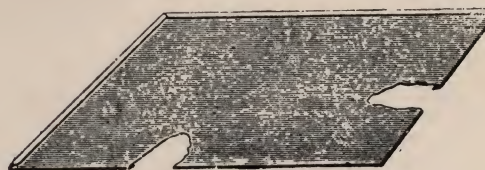
Packed 100 in a bundle

Per 100	3x9	4x5	4x7	5x7
Galvanized	\$1.20	\$1.10	\$1.15	\$1.45
Painted Tin....	1.00	.90	.95	1.20



No. 146

Flat Seam Tin Roofing



No. 147

A square consists of 28 sheets, 20x28 inches. The sheets are squared, notched and edged. We furnish tin cleats sufficient to lay the tin ordered. In ordering state quality of tin wanted. See page 109 for different brands of tin carried in stock. Prices quoted on receipt of specifications.

CHARCOAL. Our charcoal is the best that can be secured, and we have it shipped in good strong boxes which keep it from being powdered.

ROOF CEMENT. This cement has been used by us for the past twenty years, and we know we do no violence to our conscience when we say it is the best cement on the market for slate roof work or for stopping leaks in tin, gravel or composition roofs, around chimneys, flashings or other difficult places.

SOLDER. We carry a good stock of guaranteed 50x50 and strictly 50-50 solder on hand at all times and can make shipments at the regular market prices.

Tinners' Rivets, Flat Head

IN PACKAGES OF 1,000

Price Per 1,000

Size	Dimensions				Black	Metallic Tinned	Tin Plated	In 10 lb. and 5 lb. Boxes, per lb.
	Barrel		Head					
	Diameter	Length	Diameter	Thickness				Black	Metallic Tinned	Tin Plated	Black
4 oz.	.072	$\frac{7}{64}$	$\frac{9}{64}$	.020	\$.....	\$.....	\$.....	\$.....
6	.079	$\frac{8}{64}$	$\frac{5}{32}$	.020	.20	.28	.24	.48
8	.086	$\frac{10}{64}$	$\frac{3}{16}$	.022	.22	.31	.26	.42
10	.081	$\frac{11}{64}$	$\frac{13}{64}$	.025	.24	.35	.29	.38
12	.095	$\frac{12}{64}$	$\frac{7}{32}$	.030	.26	.39	.32	.35
14	.095	$\frac{12}{64}$	$\frac{15}{64}$	.030	.28	.43	.35	.33
1 lb.	.103	$\frac{13}{64}$	$\frac{1}{4}$	.030	.29	.47	.37	.30
1¼	.115	$\frac{14}{64}$	$\frac{17}{64}$	.035	.32	.54	.42	.27
1½	.123	$\frac{15}{64}$	$\frac{9}{32}$	.035	.37	.64	.49	.26
1¾	.131	$\frac{16}{64}$	$\frac{19}{64}$	.040	.41	.72	.55	.25
2	.139	$\frac{17}{64}$	$\frac{19}{64}$	.045	.44	.79	.59	.24
2½	.143	$\frac{18}{64}$	$\frac{5}{16}$	.050	.56	1.00	.75	.24
3	.153	$\frac{20}{64}$	$\frac{23}{64}$	.055	.62	1.15	.85	.23
3½	.161	$\frac{21}{64}$	$\frac{3}{8}$	.060	.72	1.34	.99	.23
4	.170	$\frac{22}{64}$	$\frac{25}{64}$	.065	.79	1.49	1.09	.22
5	.174	$\frac{24}{64}$	$\frac{27}{64}$	.070	1.00	1.88	1.38	.22
6	.197	$\frac{25}{64}$	$\frac{29}{64}$	.075	1.12	2.17	1.57	.21
7	.206	$\frac{26}{64}$	$\frac{29}{64}$	.086	1.31	2.54	1.84	.21
8	.213	$\frac{28}{64}$	$\frac{15}{32}$	.086	1.50	2.90	2.10	.21
9	.226	$\frac{29}{64}$	$\frac{31}{64}$	.091	1.68	3.26	2.36	.21
10	.231	$\frac{30}{64}$	$\frac{1}{2}$	.091	1.77	3.52	2.52	.20
12	.243	$\frac{32}{64}$	$\frac{17}{32}$	.095	2.06	4.16	2.96	.19½
14	.277	$\frac{33}{64}$	$\frac{9}{16}$	.109	2.40	4.85	3.45	.19½
16	.291	$\frac{34}{64}$	$\frac{19}{32}$	.109	2.77	5.57	3.97	.19½

LIST EXTRAS—For Oval or Countersunk Heads, Shoulder and Pointed, or Extra Length Rivets, add 10 cents per M to list price for each specialty.

NET EXTRAS—For Tin Plating or Copper Plating, add 1 1/2 cents per lb. to net price. For Metallic Tinning, add 3 1/2 cents per lb. to net price. When "Tinned" Rivets are ordered, Metallic Tinned are furnished. For bright polishing after Annealing, add 25 cents net extra per cwt.

LIST REBATES—For 25 and 50 lb. boxes, deduct 2 cents, for 100 lb. boxes, deduct 3 cents, and for 100 and 200 lb. kegs, deduct 4 cents per lb. from list price.



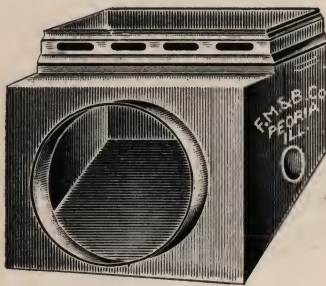
"Handy" Furnace Pipe and Fittings

A complete stock of single and double wall pipe and fittings in Nos. 6, 7, 8 sizes. The stock consists of the wall pipe, wall and floor boxes, angles, elbows, offsets, boots, etc.

A special catalog will be mailed on request. The standard market prices as established by the manufacturers applies at all times.

Prompt shipments are the rule.

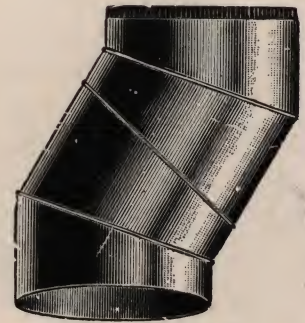
This stock includes a complete line of galvanized accessories.



Foot Piece



Register Box for 10-inch Joists in Tin or Galvanized Iron

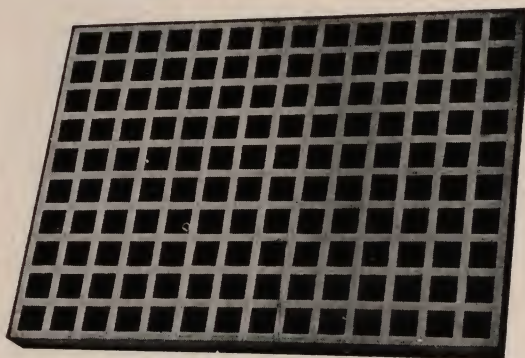


Adjustable Elbows, 7 to 20 in.

Registers, Faces and Borders

A complete line of Tuttle & Bailey and Jones floor and side wall registers, faces, etc., at regular market prices. Catalog on request.

Wooden Register Faces FOR COLD AIR DUCTS



Made of Oak

The "Sterling" No-Rivet Damper Clips and Tailpieces

Prices and special catalogs on request.



Furnace Cement

1-lb. can, per can.....	10c
2-lb. can, per can.....	15c
5-lb. can, per can.....	25c
10-lb. can, per can.....	50c

Asbestos Paper

In 50 and 100 lb. Rolls. Current Market Prices

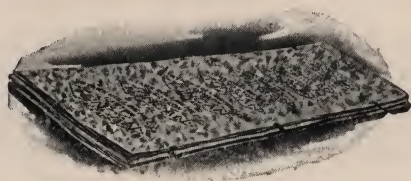
Stove Pipe Damper

Size	5 inch	6 inch	7 inch	8 inch	9 inch	10 inch	12 inch
Price, doz.....	\$1.35	\$1.50	\$2.00	\$3.00	\$4.00	\$5.00	\$6.00

Best Bloom Galvanized



Galvanized Toncan Metal



Rust Resisting—Anti-Corrosion

Every sheet stenciled with the trade mark

WEIGHT OF SHEETS

Per Square Foot

No. 14.....	52½ ounces
No. 15.....	47¾ ounces
No. 16.....	42½ ounces
No. 17.....	38½ ounces
No. 18.....	34½ ounces
No. 19.....	30½ ounces
No. 20.....	26½ ounces
No. 21.....	24½ ounces
No. 22.....	22½ ounces
No. 23.....	20½ ounces
No. 24.....	18½ ounces
No. 25.....	16½ ounces
No. 26.....	14½ ounces
No. 27.....	13½ ounces
No. 28.....	12½ ounces
No. 29.....	11½ ounces
No. 30.....	10½ ounces

We carry galvanized sheets in stock at Galesburg in gauges Nos. 20 to 30 inclusive, and in the standard lengths and widths.

Prices quoted on application or shipped and charged at the prevailing market prices.

Sheet Zinc



Illinois Zinc Co.'s Sheet Zinc is recognized by all as the standard of quality. We carry a good stock of gauges and size as follows:

Gauges Nos. 9 to 13 inclusive 84 inches long.

Prices quoted on application.

SCHEDULE OF WEIGHT OF ZINC PER SHEET

U. S. Standard Gauge	Illinois Zinc Co. Gauge	24x84	26x84	28x84	30x84	32x84	34x84	36x84	40x84	42x84	46x84	48x84	52x84
28	8	8.4	9.1	9.8	10.5	11.2	11.9	12.6	14.0	14.7	16.1	16.8	18.2
26-27	9	9.4	10.2	10.9	11.7	12.5	13.3	14.1	15.6	16.4	18.0	18.8	20.3
25	10	10.5	11.4	12.3	13.1	14.0	14.9	15.7	17.5	18.4	20.1	21.0	22.7
24	11	12.6	13.7	14.7	15.8	16.8	17.8	18.9	21.0	22.0	24.0	28.2	27.3
23	12	14.7	15.9	17.1	18.4	19.6	20.8	22.0	24.5	25.7	28.2	29.4	31.8
22	13	16.8	18.2	19.6	21.0	22.4	23.8	25.2	28.0	29.4	32.2	33.6	36.4
21	14	18.9	20.5	22.0	23.6	25.1	26.8	28.3	31.5	33.1	36.2	37.8	40.9
20	15	21.0	22.7	24.5	26.2	28.0	29.7	31.5	35.0	36.7	40.2	42.0	45.5

Zinc gauge can be maintained only approximately



Willis Metal Shingles

No. 1388 DISTINCTIVE IN DESIGN



An excellent roof covering for residences, bungalows, churches, schools, club houses, garages and all buildings for which a good ornamental covering is required.

Nail holes are punched. Use two $\frac{7}{8}$ inch nails for each shingle.

Size 10x14 in., covers $8\frac{1}{2} \times 12\frac{1}{2}$ in., requiring 136 shingles to cover one square or 100 square feet.

Also furnished in 14x20 in. size, requiring 64 to cover one square.

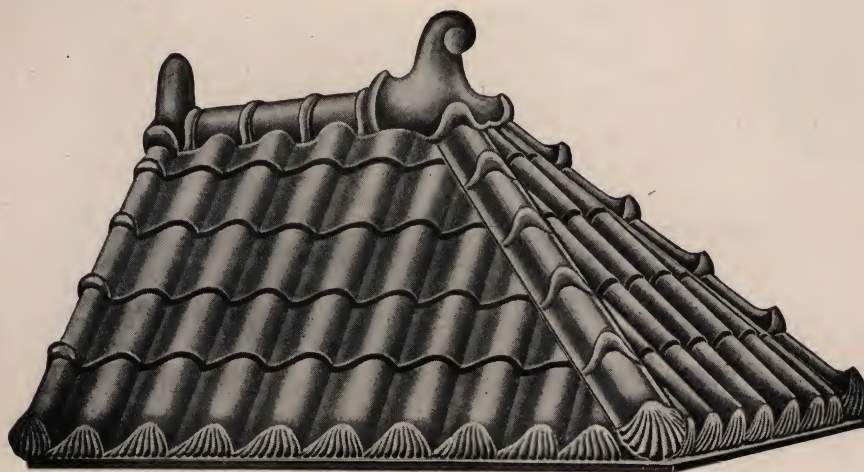
We employ the following materials in their manufacture: No. 28 Gauge Galvanized Toncan Metal, No. 28, No. 29, No. 30 gauge Galvanized Open Hearth Steel, and 8 pound, 12 pound, 15 pound, 20 pound, 25 pound, 30 pound tin coated painted.

We furnish when required: ridge roll, ridge cap, hip roll, hip cap, valleys, flashings, finials and crestings in any style or to a detail and the material to be employed to your specification.

Prices quoted on application. (Market condition governs)

Willis Metal "Spanish" Tile

The Roof is Proof. Economical, Beautiful, Durable.



No. 1387

Submit plan and elevation of the roof, specifying metal which is to be used.

Prices quoted on application.

Willis Cluster Shingles



No. 340

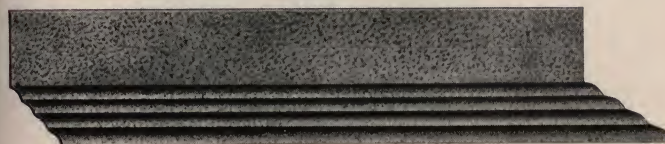
Size of sheets, 15x96 inches.
Covering space, 13x94 inches.
Three rows of tile to the sheet.



No. 1399.

Corrugated Ridge Roll

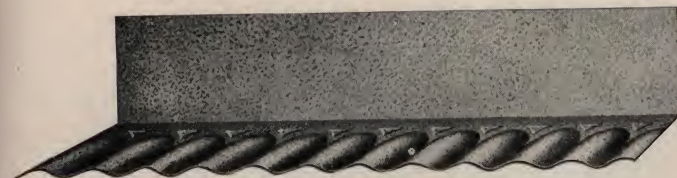
Standard gauge, galvanized, per 100 ft.....	\$16.00
Standard gauge, painted, per 100 ft.....	13.00
No. 26 gauge, galvanized, per 100 ft.....	18.00



No. 1398.

Corrugated Side Wall Flashing

Standard gauge, galvanized, per 100 ft.....	\$18.00
Standard gauge, painted, per 100 ft.....	13.50
No. 26 gauge, galvanized, per 100 ft.....	19.00



No. 1400.

Corrugated End Wall Flashing

Standard gauge, galvanized, per 100 ft.....	\$18.00
Standard gauge, painted, per 100 ft.....	13.50
No. 26 gauge, galvanized, per 100 ft.....	19.00



No. 1401.

(Crated 250 lineal feet)

Made in full 10 foot lengths. Seamless. Thoroughly protects barn door tracks and hangers from rain, snow and ice.

Galvanized Track Cover

List Price per 100 lineal feet

Standard gauge, 10-inch girt.....	\$ 8.00
No. 26 gauge, 10-inch girt.....	10.00

Only made of galvanized steel or galvanized Toncan Metal

No. 1402 Metal Corner Board

Made by us with 4 inch face; 1 inch return and nailing flange. Standard gauge, galvanized, \$11.00 per 100 feet.

Lead washers can be furnished at regular market prices.

We have 4d and 6d galvanized nails for erecting these products at regular market prices.

The above also made of Toncan Metal.



Beaded Ceiling

PAINTED OR GALVANIZED

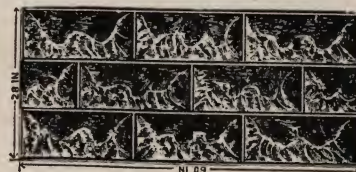


No. 1393

Sheets cover 24 inches. Regular lengths, 8 feet.

Prices quoted on application. Specify quantities and kinds.

Rock Faced Stone Siding—Large



No. 1392

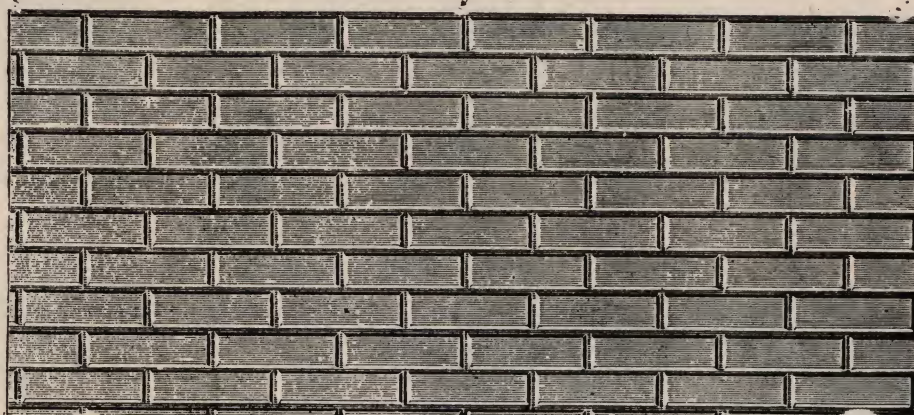
Rock Faced Stone Siding—Small



No. 1391

Plain Steel Siding

PAINTED OR GALVANIZED



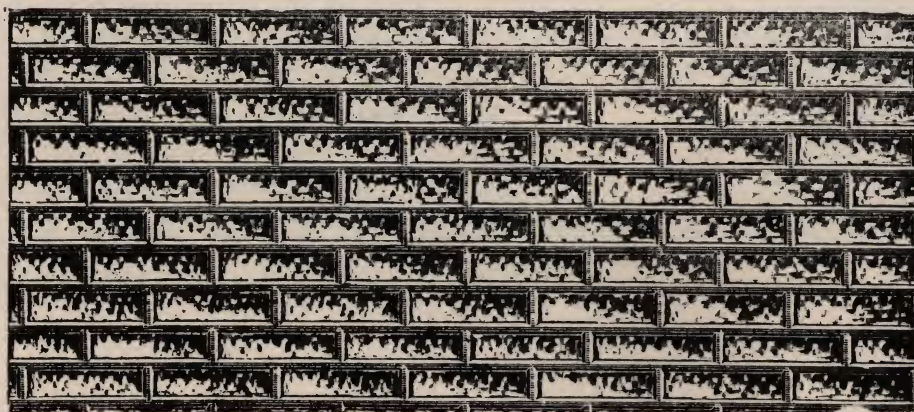
No. 802

Size of single brick, 2 4-5x8 $\frac{1}{4}$ in.

Sheets, 28x60 in.

Rock Faced Steel Brick Siding

PAINTED OR GALVANIZED



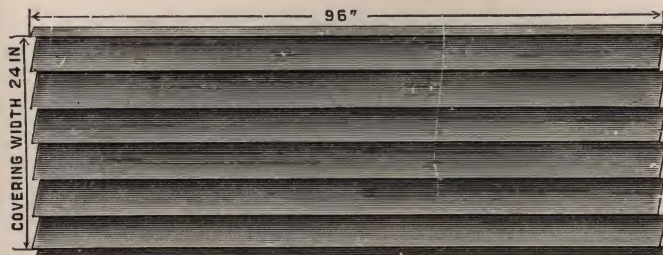
No. 803

Size of single brick, 2 4-5x8 $\frac{1}{4}$ in.

Sheets, 28x60 in.

Imitation Weather Boarding

PAINTED OR GALVANIZED

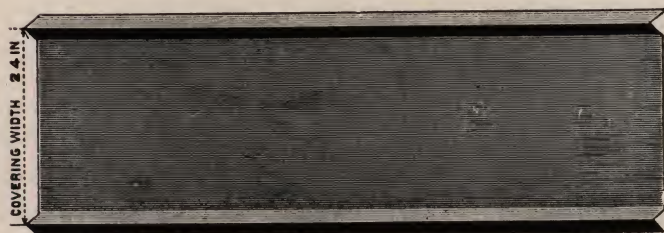


No. 1394

Sheets cover 24 inches. Regular lengths, 8 feet.

V Crimped Roofing

PAINTED OR GALVANIZED



No. 1395

Sheets cover 24 inches. 6, 7, 8, 9, and 10 feet long

3 V or Middle Crimped Roofing

PAINTED OR GALVANIZED



No. 1396

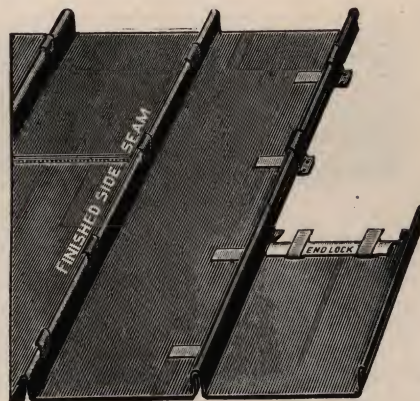
Sheets cover 24 inches. 6, 7, 8, 9, and 10 feet long

Covering width charged.

Wood strips are not included unless otherwise specified

Pressed Standing Seam

PAINTED OR GALVANIZED



No. 1397

Sheets cover 24 in. 6, 7, 8, 9 and 10 ft. long

Plain or Self Capping Roll Roofing With Cleats

PAINTED OR GALVANIZED



No. 1390

In 50 ft. rolls, 26½ in. wide. 100 square ft. each.

Prices are quoted on receipt of specifications covering the requirements.

All materials can be furnished Toncan Metal or any other sheet metal.

Should you desire we will be glad to figure quantities if you will supply us with the information as to sizes of buildings, etc.

Corrugated Sheets for Roofing and Siding

OPEN HEARTH STEEL

TONCAN METAL



No. 1411—Both Galvanized and Painted

$\frac{5}{8}$ in. corrugation, 25 inches wide, covering width 24 inches. 8 ft. long. Used for ceilings, partitions, etc.

$1\frac{1}{4}$ in. corrugations, 26 inches wide by 5-6-7-8-9 and 10 feet long.

$2\frac{1}{2}$ in. corrugations, 26 inches wide by 5-6-7-8-9 and 10 feet long.

If size of corrugations and lengths are not given we will always ship $1\frac{1}{4}$ inch corrugation, 8 feet long, No. 29 gauge.

$\frac{5}{8}$ inch corrugations are made in No. 24 gauge and lighter. $1\frac{1}{4}$ inch corrugations are made in No. 22 gauge and lighter. $2\frac{1}{2}$ inch corrugations are made in No. 16 gauge and lighter.

DIRECTIONS FOR ORDERING

Standard $1\frac{1}{4}$ and $2\frac{1}{2}$ inch Corrugated Sheets

First select the best lengths of sheets, bearing in mind the end laps. On siding one corrugation lap will do, while for roofing nothing less than two corrugations and if a slight pitch, three corrugations. As each sheet lays just two feet wide it is a simple matter to ascertain the number of sheets necessary to cover the space. Then estimate the number of feet as follows:

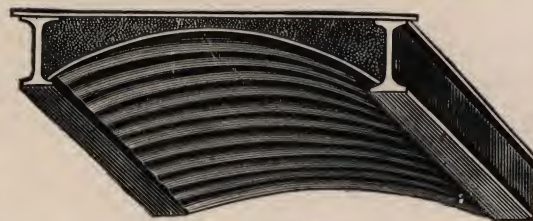
6 ft. long, 13	sq. ft., lay 2 ft. wide, selling measure	26 in. wide
7 ft. long, 15.16	sq. ft., lay 2 ft. wide, selling measure	26 in. wide
8 ft. long, 17.33	sq. ft., lay 2 ft. wide, selling measure	26 in. wide
9 ft. long, 19.5	sq. ft., lay 2 ft. wide, selling measure	26 in. wide
10 ft. long, 21.66	sq. ft., lay 2 ft. wide, selling measure	26 in. wide
12 ft. long, 26	sq. ft., lay 2 ft. wide, selling measure	26 in. wide

Lead washers can be furnished by us at regular market prices; also 4d and 6d Galvanized wire nails.



No. 1408

This style is used for tank work and can be curved in 16 to 26 gauges to any radius or diameter desired.



No. 1409

This style is used for arching, between floor beams in concrete buildings and can be curved to suit your needs.



No. 1410

This style is used in awning work and can be curved to any shape or style desired. See page 88 for awnings. Any of the above furnished in Toncan Metal.

WESTERN AGENTS FOR THE GENUINE JACKSON-BANGOR

Deep Bed Roofing Slate

We will be pleased to quote prices for any quantities delivered at any railroad station. But if less than 65 squares (this quantity being a minimum car load) the quantity should be stated. All orders or inquiries will receive prompt and careful attention.

SLATER'S FELT SLATER'S TOOLS SLATER'S NAILS

All at prevailing market prices.

WE ARE SELLING AGENTS FOR

Follansbee Tin Plates

We handle the entire line: Banfield, Old Welch Process, Scott's Extra Coated, Old Reliable, Protection Old Process, Neville Old Process, Lionel Old Style, Emblem Old Style, Orbit Redipped Old Style, Follansbee Security, Duquesne, Raymond, Allegheny and the full line of furnace cokes.

All charged at the prevailing market prices as designated by the manufacturers.

Sheet and Roll Copper (Cold and Soft Rolled)

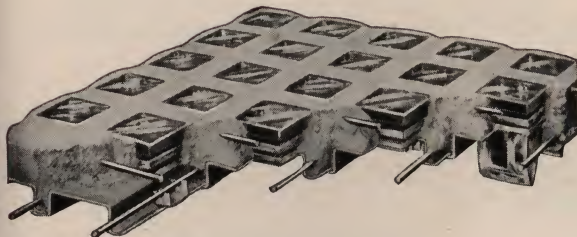
TINNED, POLISHED, PLANISHED

COPPER BOILER BOTTOMS

BRASS STRAINER CLOTH

Prices quoted on receipt of specifications

Sidewalk Lights



Special catalog on request

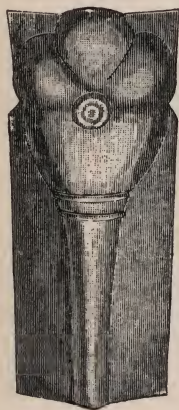
Send us specifications covering your requirements for quotation.

An ideal method of daylighting basements and the valuable space under sidewalks which would otherwise be practically useless. This is a strong, simple and effective system of sidewalk, vault and floor lights, essentially a double reinforced concrete construction which is quickly and easily installed, and which provides the maximum light area. By this method daylight, the cheapest illuminant known, is transmitted into the dark spaces of the basement, changing them into bright, cheerful places, valuable from the investment standpoint.

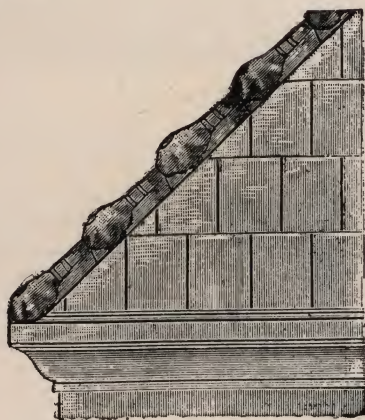


Willis Hip Shingle

WE ARE THE ORIGINATORS AND THE FIRST ONE WAS MADE IN OUR FACTORY AT GALESBURG



THIS TELLS
THE
STORY



4x7	Tin, painted.....	\$2.65 per 100
4x7	Galvanized	4.15 per 100
4x9	Tin, painted.....	3.00 per 100
4x9	Galvanized	4.50 per 100
5x12	Tin, painted.....	6.00 per 100
5x12	Galvanized	7.50 per 100

Packed 250 to the box

The above sizes are carried in stock.

Also made in copper on which we will be pleased to quote price on receipt of specifications or will make shipment on receipt of order and invoice same out, basing the price on the market value of the copper at time of shipment. Will quote on Toncan Metal also.

Directions for Shingle Roofs—First lay the roof, then begin at the bottom of the hip and lay the hip shingles, bring the offset in hip shingles up against the butt of the wood shingle and nail at lower points.

For slate roofs same as above, except have a $\frac{7}{8} \times \frac{7}{8}$ wood strip laid up the hip and drive a nail through the button in center of hip shingle into this strip.

Metal Base Screed

This is also manufactured with curved point and slant point. The list price below will apply.

Permanent Base Screed for use between concrete base and plaster.

LIST PRICE

Price per 1000 lineal feet, made from Galvanized Sheets,
shipped in bundles.....\$60.00



Patented

Style No. 5

Straight Point Metal Base Screed

Willis Wall Tie



Willis Veneer Tie



Less than 2500.....	\$6.75 per 1000 net	} THEY ARE AS GOOD AS THEY LOOK Samples on Request
2500 to 5000.....	6.00 per 1000 net	
5000 or more.....	5.40 per 1000 net	



B. B. Expanded Metal Lath

MADE FROM STEEL OR



New process of manufacture. Small neat mesh formed by the natural bend of the strands in expanding.

The narrow strands allow the mortar to completely imbed the lath on both sides, the clinch bonding on the back.

No sharp points or edges to cut the hands. Sheets may be easily broken up into small members for cornices, coves, etc.

Our Galvanized Lath is galvanized after expanding, completely coating the edges of the strands as well as the surface of the sheet.

We can furnish lath cut from galvanized sheets also.

Specify gauge desired and whether plain, painted or galvanized. Prices on specified quantities named on application.

Sheets in bundle, 9.

Yards per bundle, 12

Gauge	Weight per bdl	Weight per yd.	Yards in 100 lbs.
No. 27.....	27½	2½	43
No. 26.....	30	2½	40
No. 3 lb. special.....	36	3	34
No. 24.....	40½	3.4	29
Government specification.....	52	4.4	23

Sheets 18 in. by 96 in.

Corner Bead



Style No. 3. (Ribbed Point)
(Cut shown is full size)

May be used with or without clips.

Price for Style No. 3 per 1000 lineal feet, galvanized
after punching and forming, 24 gauge.....\$43.50
No. 26 gauge..... 40.50

Price, formed from galvanized sheets:
No. 24 gauge..... 40.50
No. 26 gauge..... 36.00

Are designed to cover any specification.

They are made in two grades—first and second quality.

First quality are galvanized after being punched and formed.

Second are made from tight Coat Galvanized Sheets and not galvanized after being punched and formed.

The workmanship on both grades is identical and as near perfect as is possible to obtain.

Standard lengths of all beads are 6, 7, 8, 9 and 10 feet.

When length is not specified, 10 ft. lengths will be shipped. Shipments made on short notice.

All beads are packed in bundles unless ordered crated.

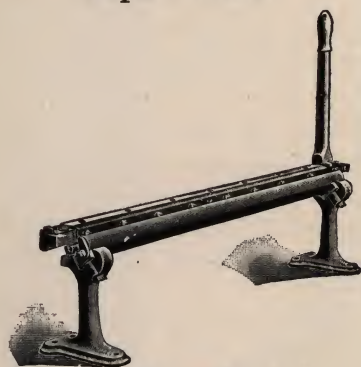
Extra for crating, \$1.00 per 1,000 lineal feet.

Weight per 1,000 lineal feet: for 24 gauge, 245 lbs.
For 26 gauge, 185 lbs.



Tin and Cornice Shop Tools—Niagara Make

Niagara Adjustable
Pipe Folder



No. 1380

Niagara Snips



No. 1339

Will cut, inches.....	3	3½	4
Straight, per pair.....	\$1.25	\$1.50	\$1.75
Circle, per pair.....	1.75	2.00	2.25

Forming Rolls—Plain



No. 1376

Gutter Tongs



No. 1366

Deep Throat
Roofing Tongs



No. 1367

Roofing Tongs



No. 1365

Adjustable Roofing
Tongs



No. 1368

Excelsior Squaring Shears
(Improved)



No. 1373

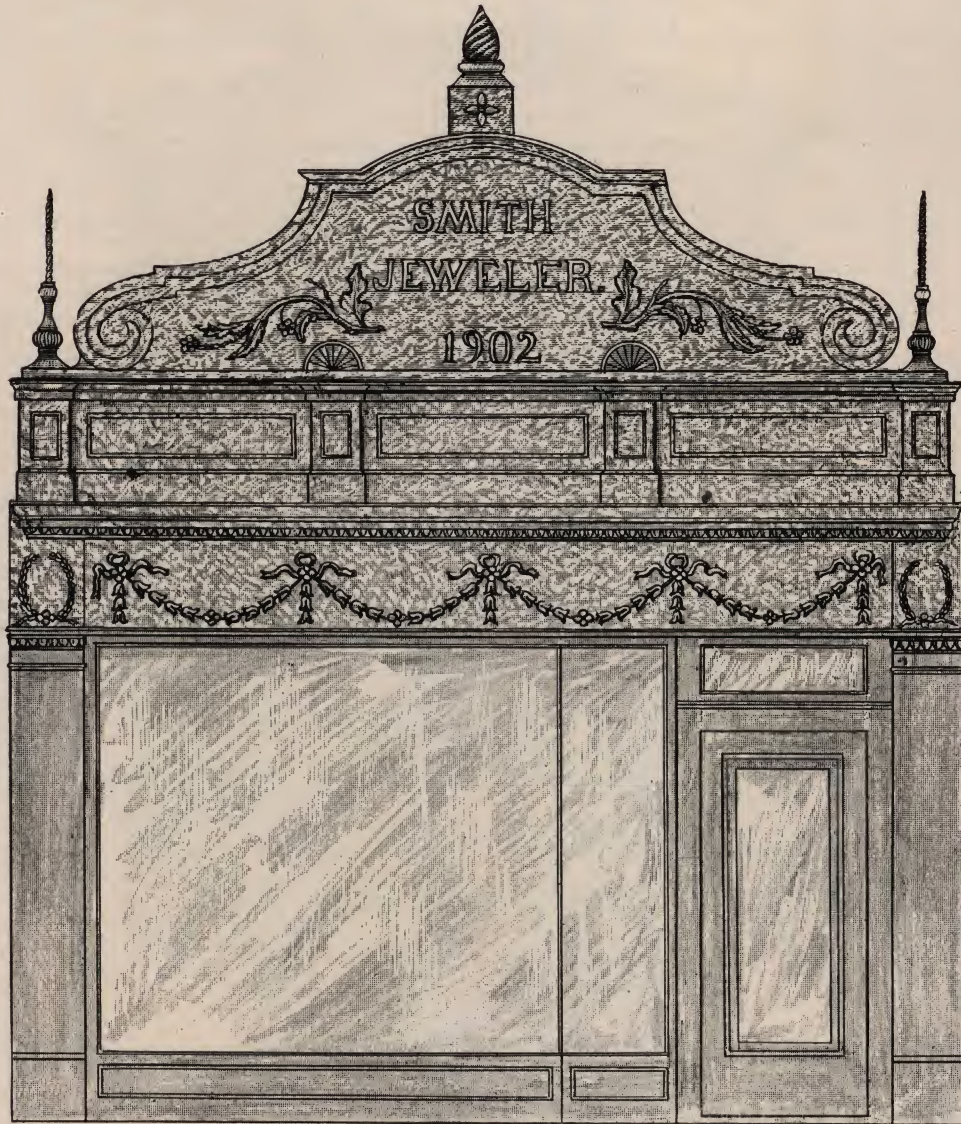
We want very much to figure on your requirements.

We can furnish prices on a complete set of tools. Let us figure on your wants, whether little or big. It gives us pleasure to figure with you; should you not see all you are in the market for, you should send a description of the same. We feel confident we can fill all your wants.

Hammers, rivet sets, chisels, folders, beading machines, brakes, all kinds roofing tools, shears, stakes, slating and tile roofing tools, beading, burring and turning machines, mallets, fire-pots, soldering coppers and handles.

A complete special catalog will be mailed you promptly upon receipt of your request.

Store Fronts



Design No. 25

This design has sufficient height for a single pitched roof to rear or double pitch to each side.

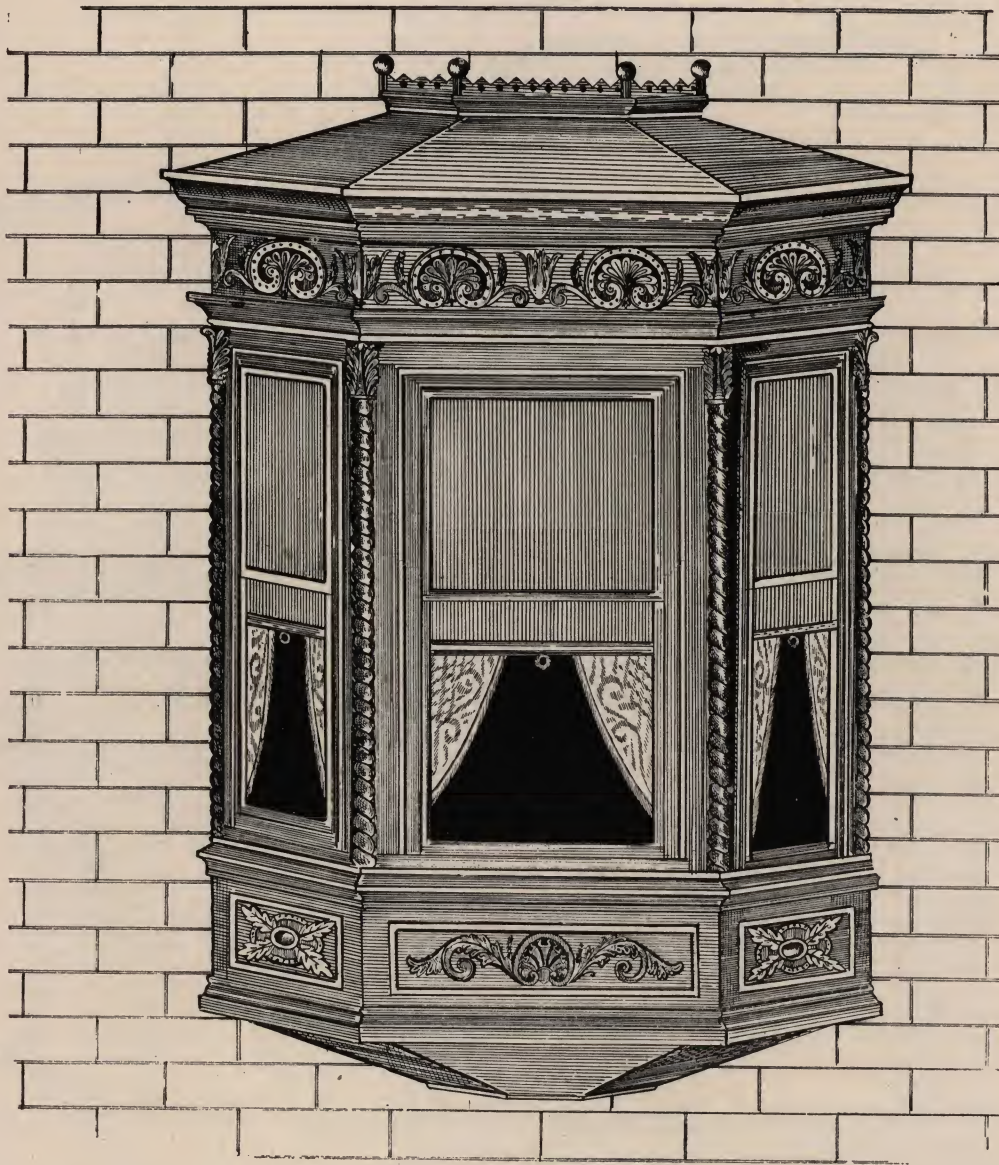
We furnish drawings for consideration. When entered as an order we furnish drawings for carpenter work. Should you have a design that you want developed, we will gladly have our draftsman work it up for you.

When submitting information on which to base an estimate or for making of drawings, care should be exercised to get all the measurements down with such written instructions as may be necessary; this will save time in the executing of the work.

When you desire us to do so, we can furnish cast iron or steel that may be required.



Bay Windows



Style No. 26

We make bay windows in all styles for residence and business houses, either from plans and details furnished or we will submit same for approval; but to do this we should be provided with a full description of the building, whether the bay is for a corner or is to go in the center of the building, also whether a circle, octagon or square bay is preferred. We should be given the width of opening, height of story and all other items that would enable us to form a correct idea of your wants.

Any of the work in our line executed to architect's details.

You should get our figures on Sheet Metal work of all kinds. It will prove mutually advantageous.

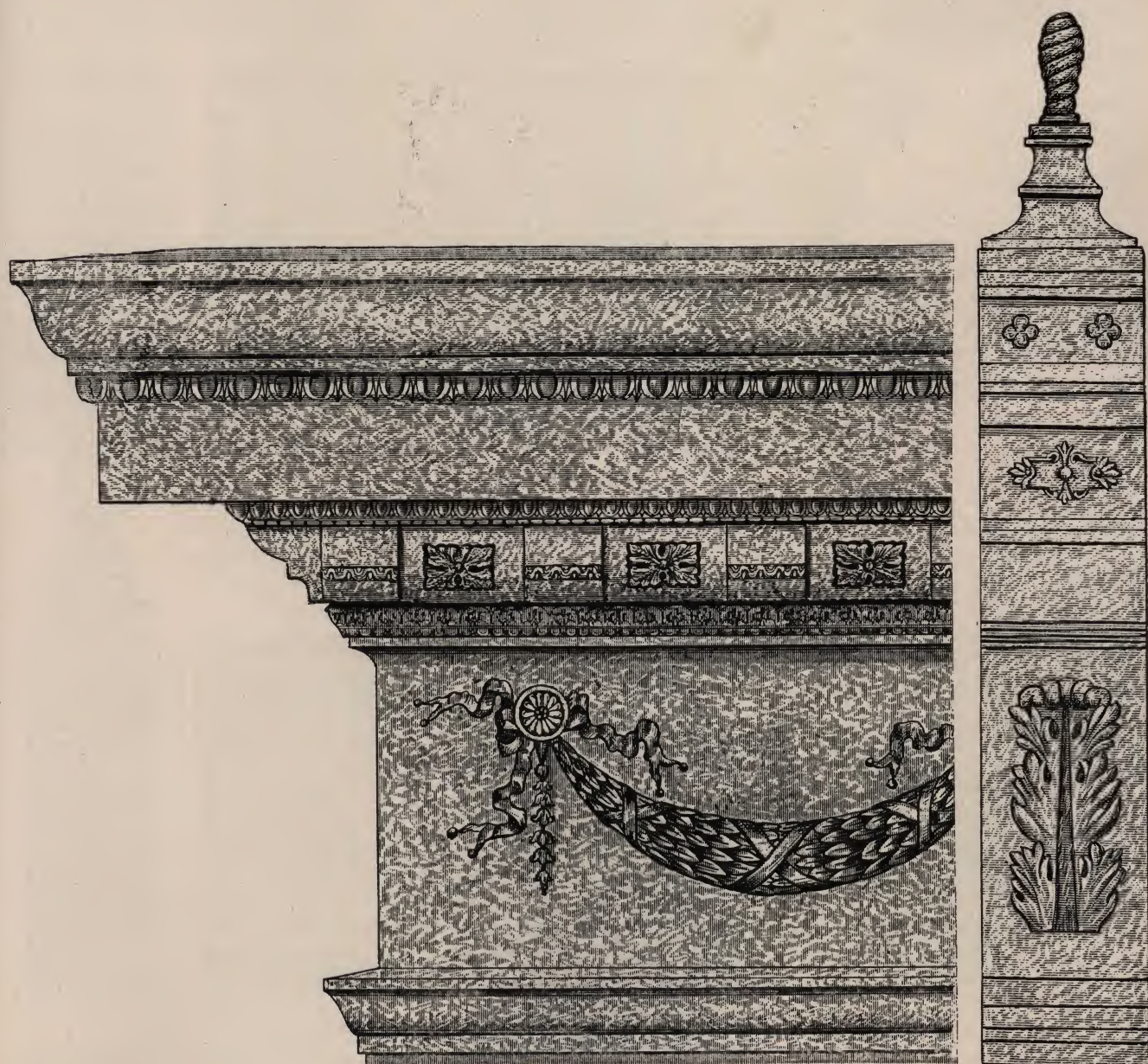
Cornices

Regularly we construct our cornices on wrought iron anchors for brick or stone building. If your requirements are for placing on a wood building, give us information to that effect and the requirements will be cared for.

The galvanized metal is all first quality Open Hearth Steel, and all ornaments are stamped from sheet zinc and afterwards applied to the metal. This makes for clean, clear mouldings and nice appearing work.

We quote on architects' details and specifications whenever you have a requirement of that nature.

Style No. 13. Built on wrought iron anchors. Height 54 inches; projection 25 inches, per ft.....\$3.00
 End Blocks. Each.....8.00
 Miters. Each (cornice projection as above).....1.00

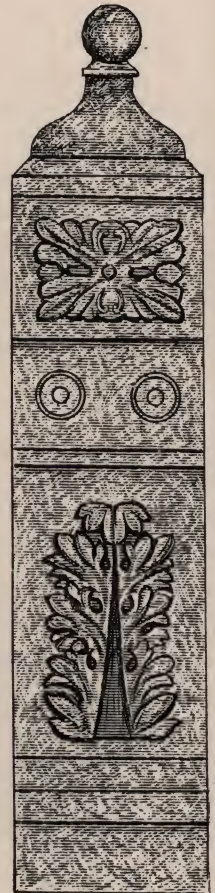
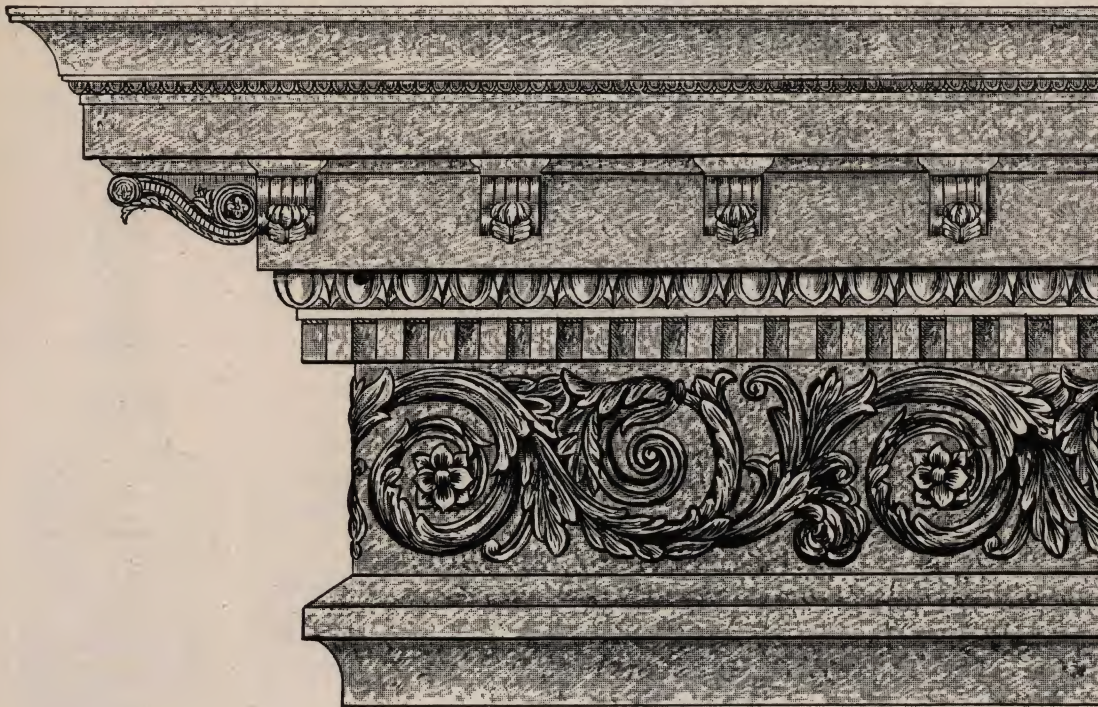


Style No. 13



CORNICES—Continued

Style No. 14. Height 48 inches; Proj. 30 inches. Per foot.....	\$3.10
End Blocks. Each.....	7.00
Miters. Each (cornice projection as above).....	1.00



Style No. 14

Style No. 16......Height 36 in. Proj. 20 in. Per foot.....	\$2.00
End Blocks. Each.....	5.50
Miters. Each (cornice projection as above).....	1.00

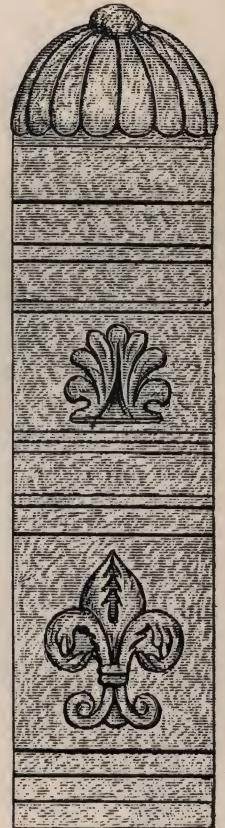
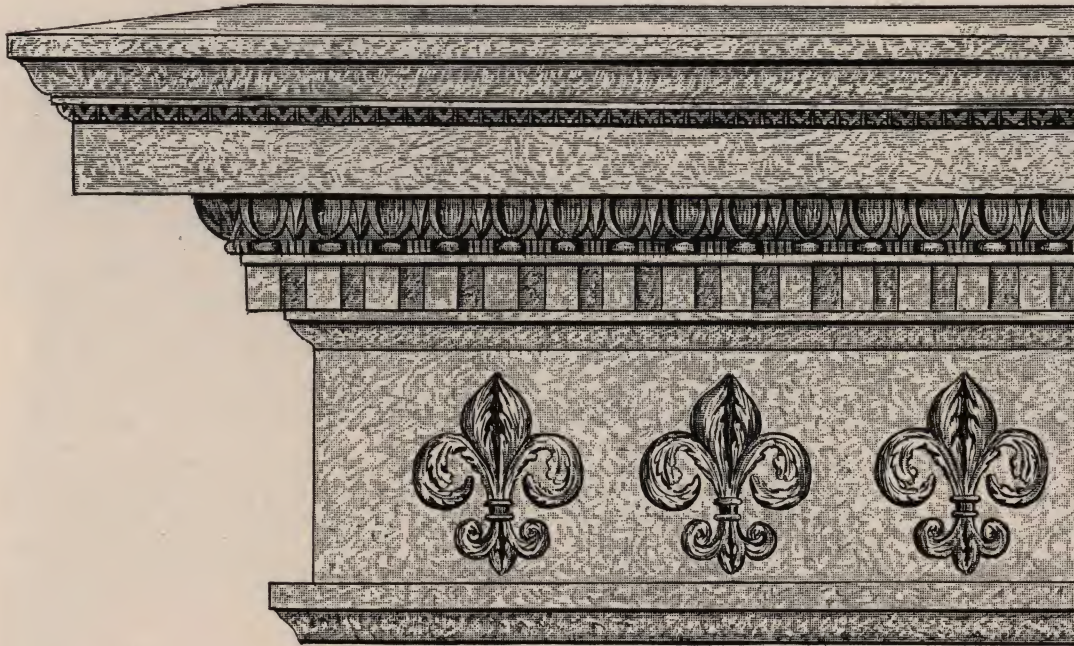


Style No. 16

Wall line measurement should be sent in to make the work from, but the projected line should be used in estimating cost as this will be used in billing out the work when miters are used.
Crating charged for at cost.

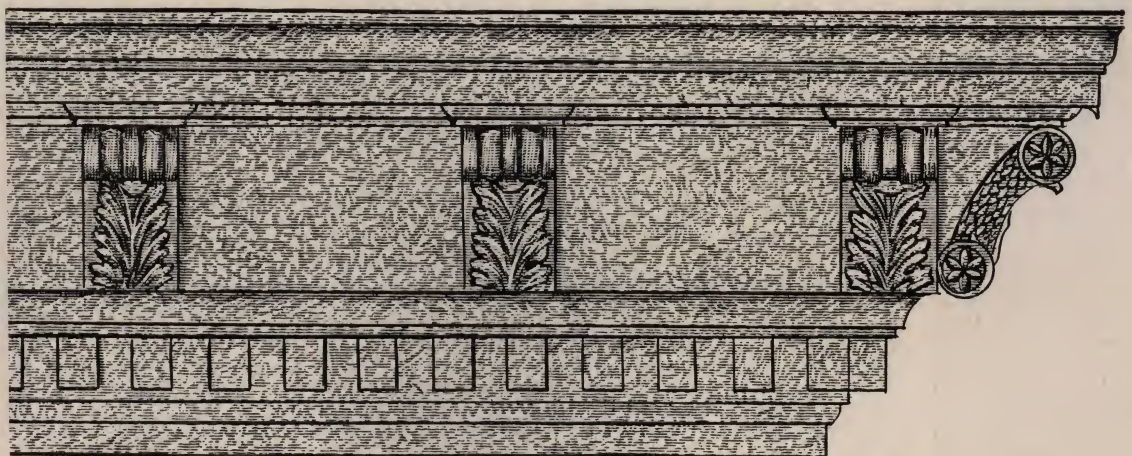
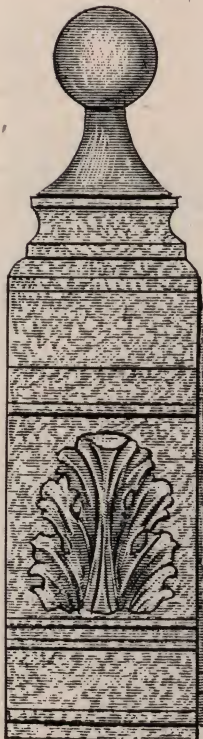
CORNICES—Continued

Style No. 15. Height 42 in. Proj. 20 in. Per ft.....	\$2.00
End Blocks. Each.....	6.00
Miters. Each (cornice projection as above).....	1.00



Style No. 15

Style No. 114 Height 28 in. Proj. 18 in. Per ft.....	\$1.75
End Blocks. Each.....	4.00
Miters. Each (cornice projection as above).....	.75

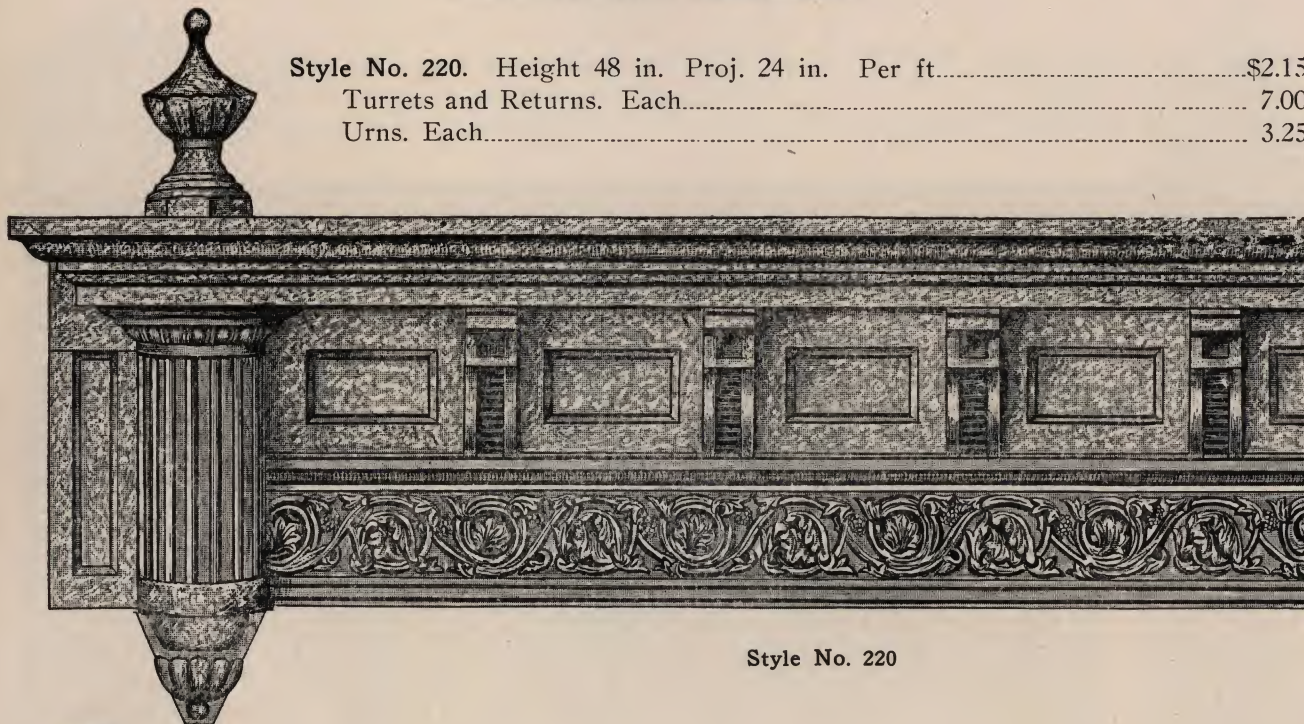


Style No. 114



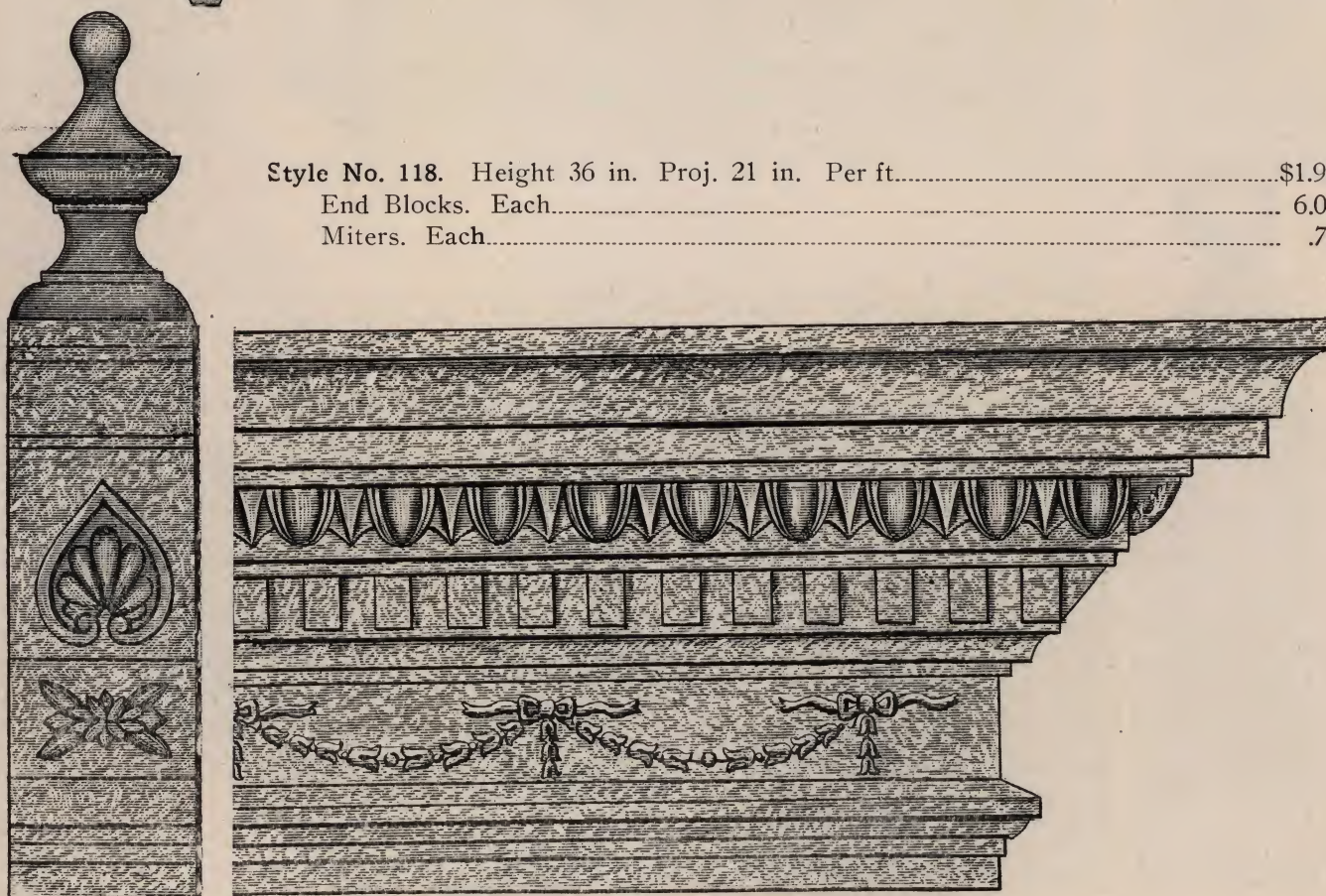
CORNICES—Continued

Style No. 220. Height 48 in. Proj. 24 in. Per ft.....	\$2.15
Turrets and Returns. Each.....	7.00
Urns. Each.....	3.25



Style No. 220

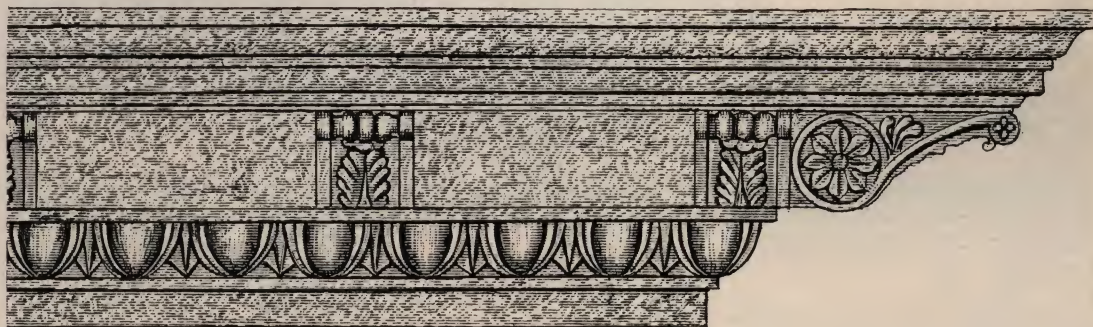
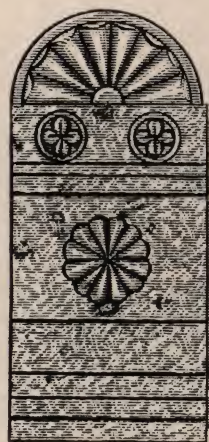
Style No. 118. Height 36 in. Proj. 21 in. Per ft.....	\$1.90
End Blocks. Each.....	6.00
Miters. Each.....	.75



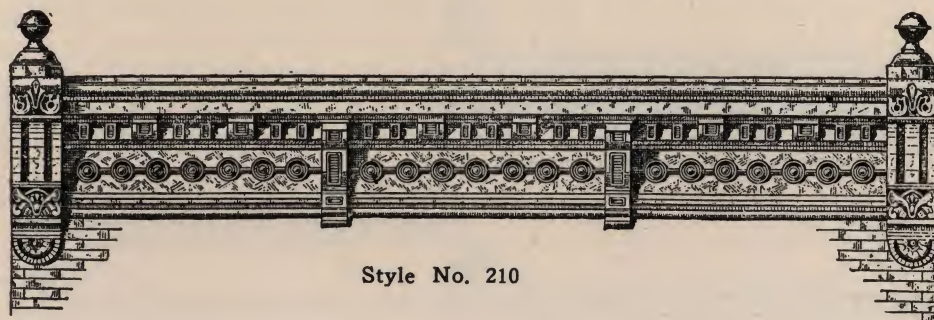
Style No. 118

CORNICES—Continued

Style No. 119. Height 20 in. Proj. 24 in. Per ft.....	\$1.80
End Blocks. Each.....	3.00
Miters. Each (cornice projection as above).....	.75

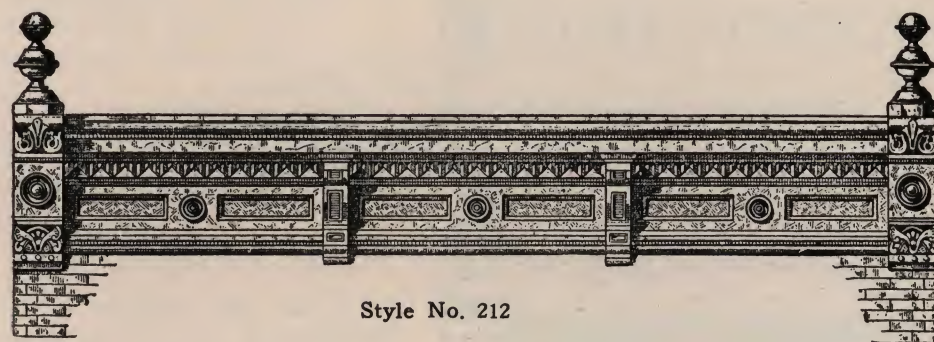


Style No. 119



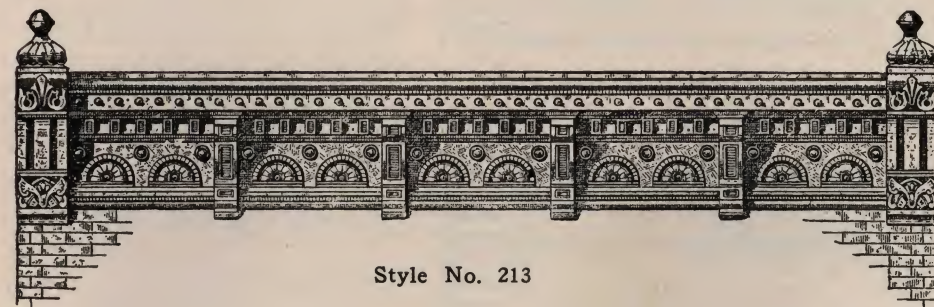
Style No. 210

No. 210. Height 31 in.
Proj. 20 in. Per ft..\$1.50
End Blocks. Each 5.50



Style No. 212

No. 212. Height 36 in.
Proj. 18 in. Per ft..\$1.40
End Blocks. Each 6.00



Style No. 213

No. 213. Height 36 in.
Proj. 20 in. Per ft..\$1.80
End Blocks. Each 5.50

Any changes can be made to suit conditions. Pediments and other additions can be made. Cornices made to architect's plans, details and specifications. Crating charged for at cost.



CORNICES—Continued



Style No. 217

No. 217. Height 36 in.
 Proj. 18 in. Per ft..\$1.30
 End Blocks. Each.. 6.00
 Pediment..... 8.00



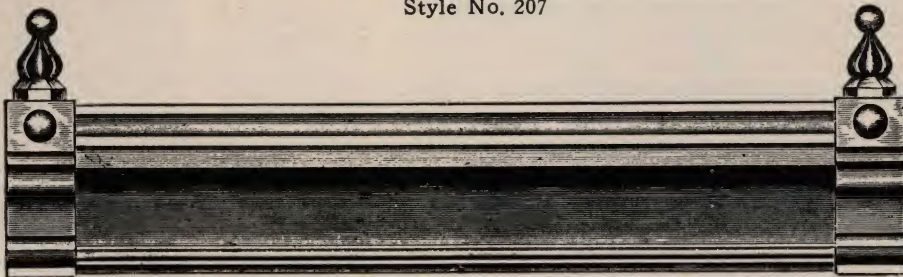
Style No. 206

No. 206. Height 17 in.
 Proj. 8 in. Per ft...\$.50
 End Blocks. Each.. 2.50



Style No. 207

No. 207. Height 20 in.
 Proj. 10 in. Per ft..\$.65
 End Blocks. Each.. 2.25



Style No. 208

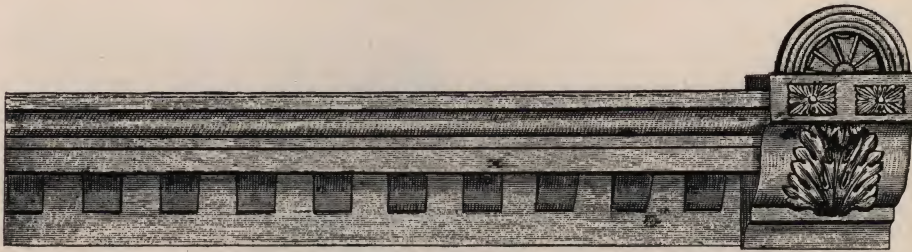
No. 208. Height 16 in.
 Proj. 8 in. Per ft..\$.45
 End Blocks. Each.. 2.25



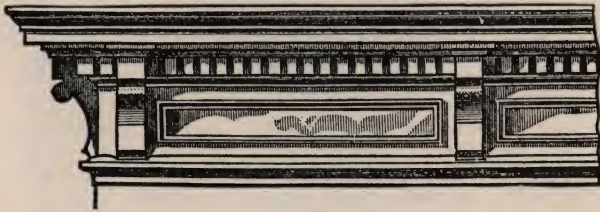
Style No. 209

No. 209. Height 30 in.
 Proj. 16 in. Per ft..\$1.10
 End Blocks. Each.. 3.50

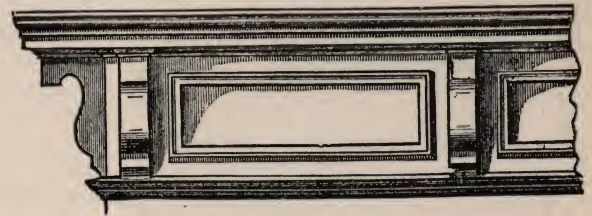
CORNICES—Continued



No. 205 Height 12 in. Proj.
7 in. Per ft.....45c
End Blocks, each.....\$2.00

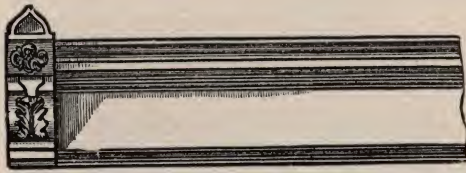


No. 202. Height 24 in. Proj. 16 in. Per ft.....\$1.00
End Blocks or Return Miters, each.....\$3.00

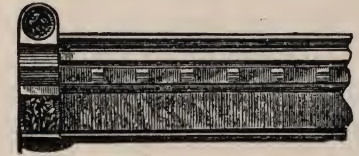


No. 203. Height 30 in. Proj. 18 in. Per ft.....\$1.10
End Blocks or Return Miters, each.....\$3.00

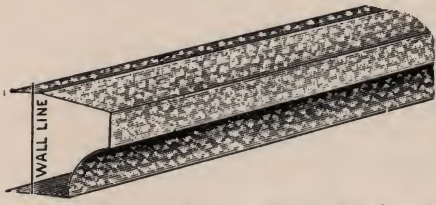
LITTLE CORNICES AND MOULDINGS



No. 201. Height 16 in. Proj. 8 in. Per ft.....35c
End Blocks, each.....\$1.75



No. 200. Height 14 in. Proj. 7 in. Per ft.....50c
End Blocks, each.....\$1.75



No. 221. Height 4½ in. Proj. 3½ in. Per
ft.....10c



No. 222. Height 4½ in. Proj. 3½ in. Per
ft.....10c



No. 223. Height 4 in. Proj. 4 in. Per ft.....12c



No. 224. Height 7 in. Proj. 3½ in. Per
ft.....15c

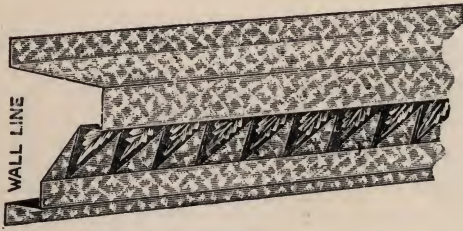


No. 225. Height 7 in. Proj. 4 in. Per ft.....25c



No. 226. Height 12 in. Proj. 6 in. Per ft.....25c

LINTLE CORNICES AND MOULDINGS—Continued



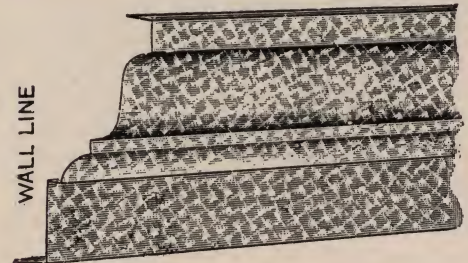
No. 227. Height 8 in. Proj. 4 in. Per ft....25c



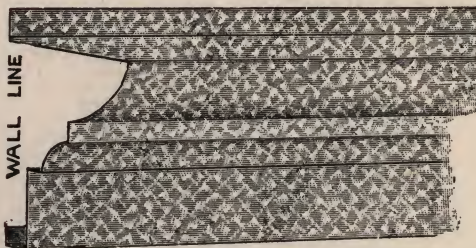
No. 228. Height 8 in. Proj. 4 in. Per ft....17c



No. 229. Height 12 in. Proj. 5 in. Per ft....17c



No. 230. Height 12 in. Proj. 6 in. Per ft....17c



No. 231. Height 11 in. Proj. 5 in. Per ft....21c



No. 232. Height 12 in. Proj. 5 in. Per ft....27c

The illustrations shown are regular stock designs for which we have patterns, but other designs will be made from architect's drawings, upon receipt of plans and details or tracings of same.

Window and Door Caps

These caps are made to place over openings in either brick, stone or frame buildings, and of any width under 42-inch, at prices named. Larger sizes will be charged for extra according to width. Also made to architect's details.

The caps will always be made to place in brick or stone wall as the wall goes up, unless ordered for walls already built, or for frame buildings; so it will be well to specify what kind of a building they are for.

In ordering caps give width of opening. And for segment head windows, give radius from which the segment was struck. Any of the square top caps can be made into segment top at an additional charge of 75c net.



No. 302. Each.....\$2.95



No. 303. Each.....\$3.95



No. 304. Each.....\$2.50

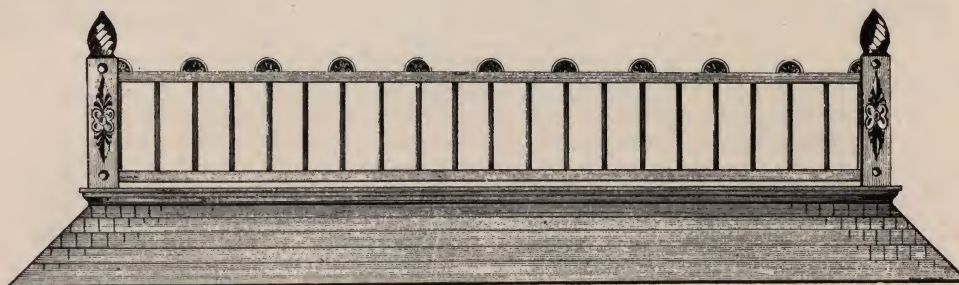
Deck Crestings



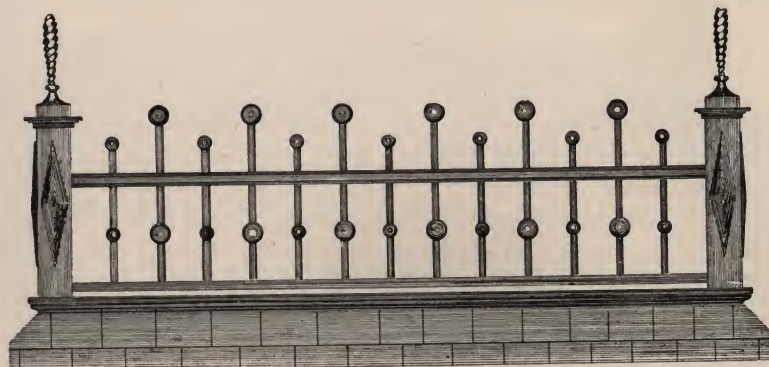
No. 47. Height 24 in. Per ft.....\$.50 Posts. Each.....\$1.35



No. 48. Height 20 in. Per ft.....\$1.25 Posts. Each.....\$1.50



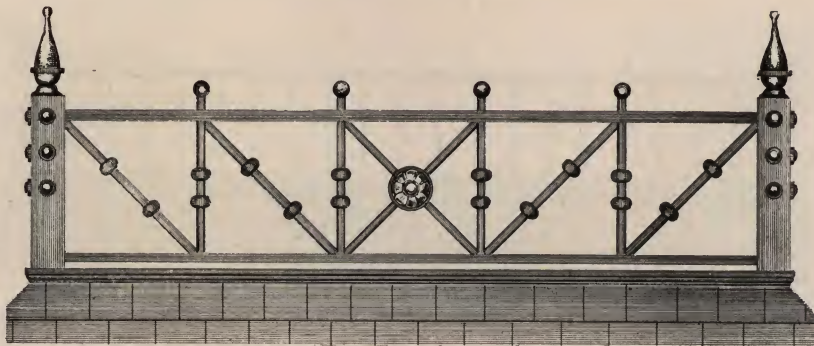
No. 49. Height 18 in. Per ft.....\$.40 Posts. Each.....\$1.50



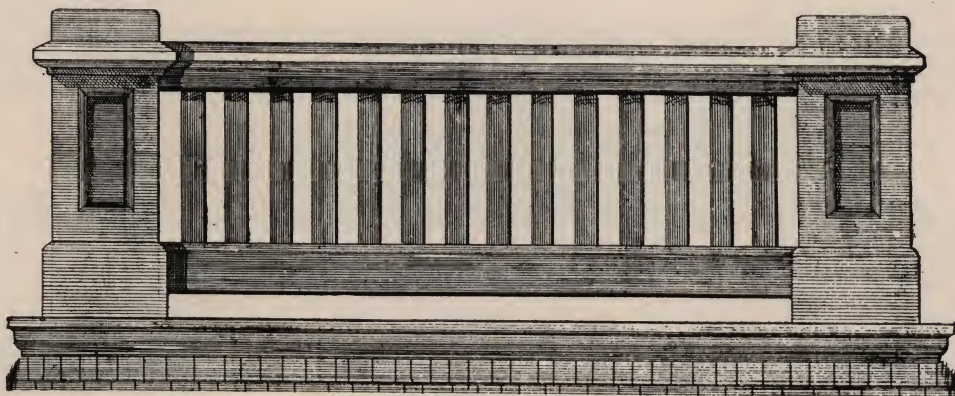
No. 65. Height 28 in. Per ft.....\$.80 Posts. Each.....\$2.00



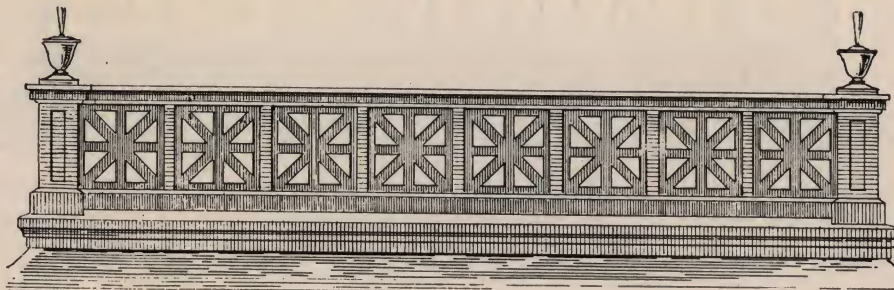
DECK CRESTINGS—Continued



No. 66. Height 24 in. Per ft.....\$.65 Posts. Each.....\$1.75



No. 288. Height 24 in. Per ft.....\$.75 Posts. Each.....\$2.50



No. 140. Height 18 in. Per ft.....\$.90 Posts. Each.....\$2.25

If you have architect's details to follow we will be pleased to quote upon receipt of same. Will also follow your ideas if given a rough sketch, which will be worked over in detail by our draftsman and submitted to you with price for your approval.

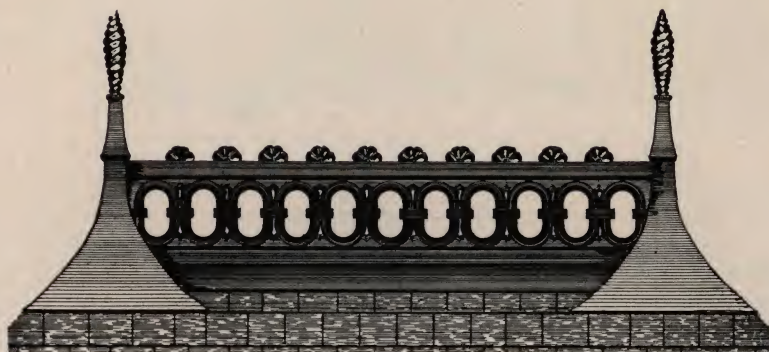
We offer to the trade a line of Deck Crestings made of galvanized iron which we are confident is much better adapted for this purpose than cast iron or wood, for the following reasons: It will not rust by neglect, as cast iron will do, nor is it as easily broken; and if broken, much easier repaired. It will not open up by the effects of the weather as wood will do. It is put together as completely as it is practical to ship, and every job is well crated when delivered to the railroad company. In ordering give the extreme length and width of deck, and we will make the work correctly. Work made in copper quoted on application. Crating charged for at cost.

Crestings and Finials



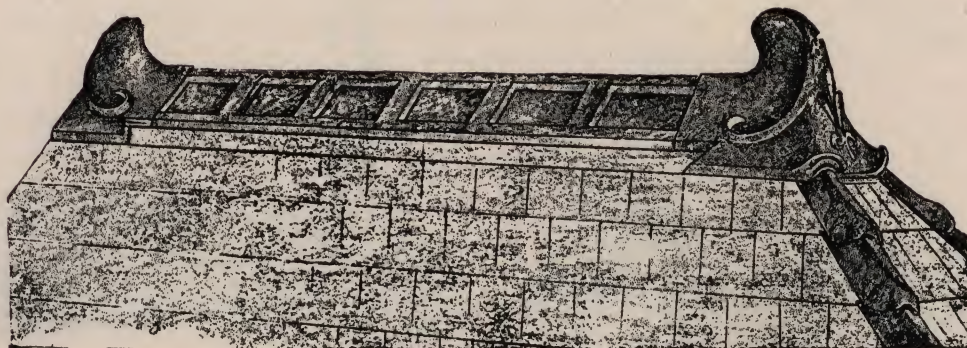
No. 68. Ridge Cresting. Height 20 in. Per ft....\$1.25

No. 69. Finials. Height 46 in. Each.....\$4.50



No. 76. Ridge Cresting. Height 24 in. Per ft....\$1.50

No. 77. Finial. Height 48 in. Each.....\$4.00



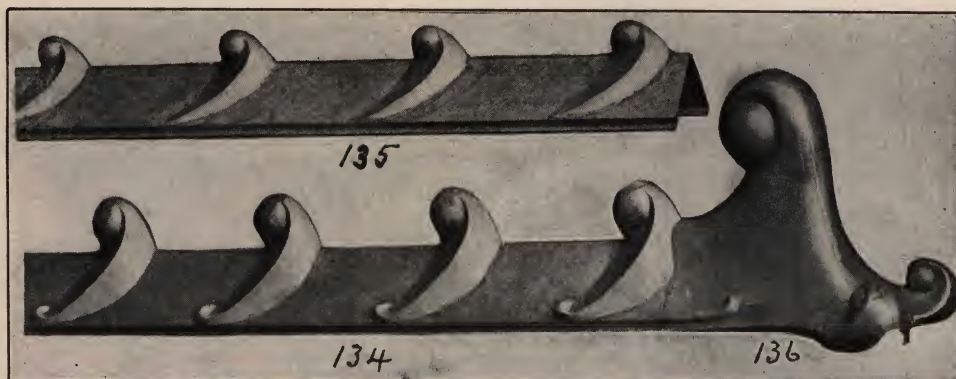
No. 57. 18 in Girt. Per ft.....\$.30

No. 55. Hip Finials. 12 in. high. Each.....\$2.25

No. 55. Gable Finials. 12 in. high. Each..... 1.90



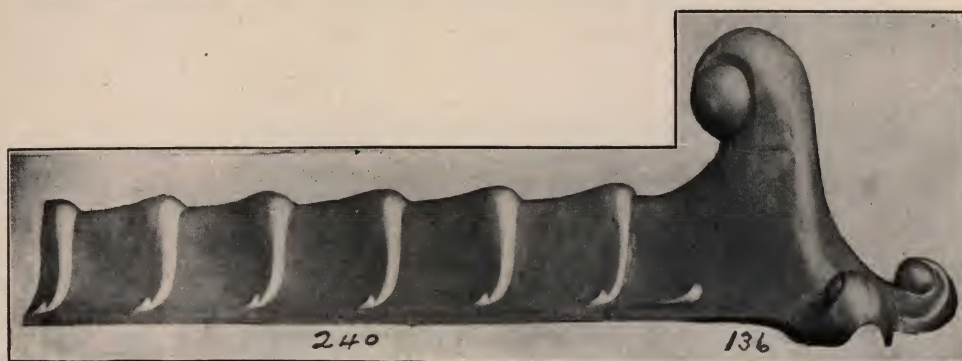
CRESTINGS AND FINIALS—Continued



No. 135. Height 7 in. (for
Cresting or Hip Finish).
Per ft.....\$.50

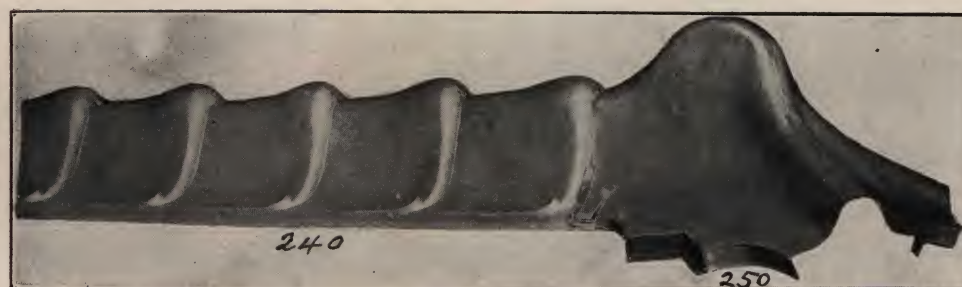
No. 134. Height 9 in. (for
Cresting). Per ft..... .75

No. 136. Height 16 in.
Each..... 4.50



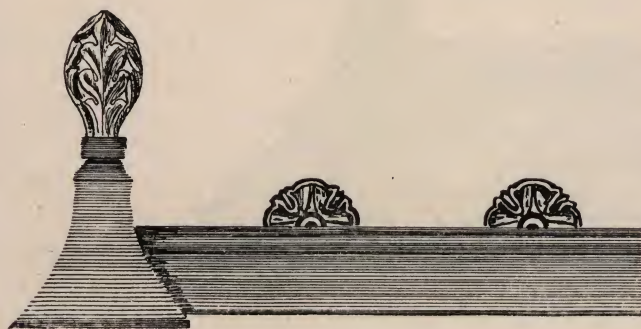
No. 240. Height 8 in. Per
ft.....\$.60

No. 136. Height 16 in.
Each..... 4.50



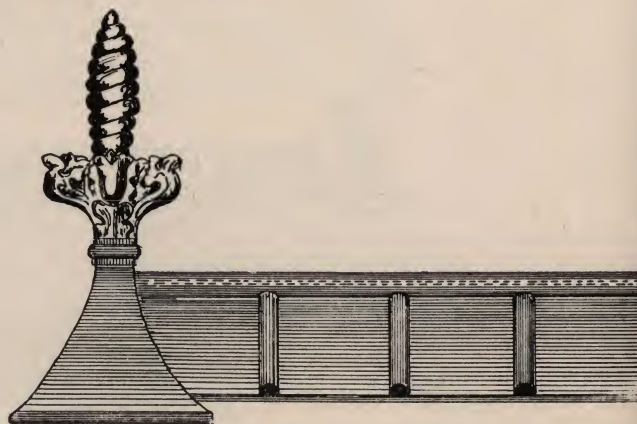
No. 240. Height 8 in. Per
ft.....\$.60

No. 250. Height 10 in.
Each 3.50



No. 88. Height 8 in. Per ft.....\$.35

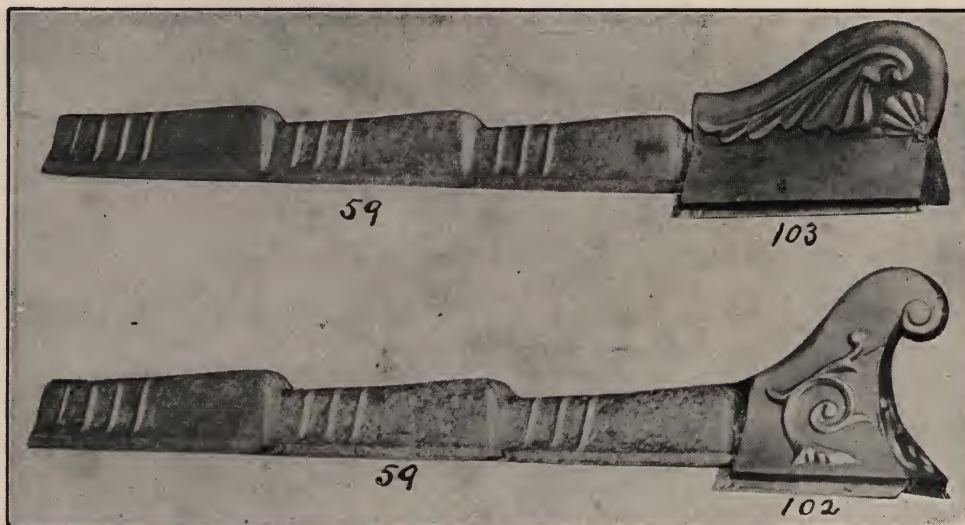
No. 89. Finial. 18 in. high. Hip or Gable. Each.. 1.75



No. 93. Girt, 20 in. Per ft.....\$.45

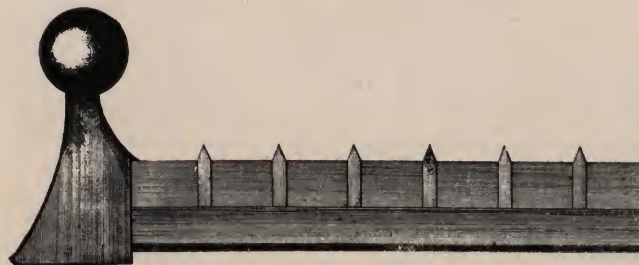
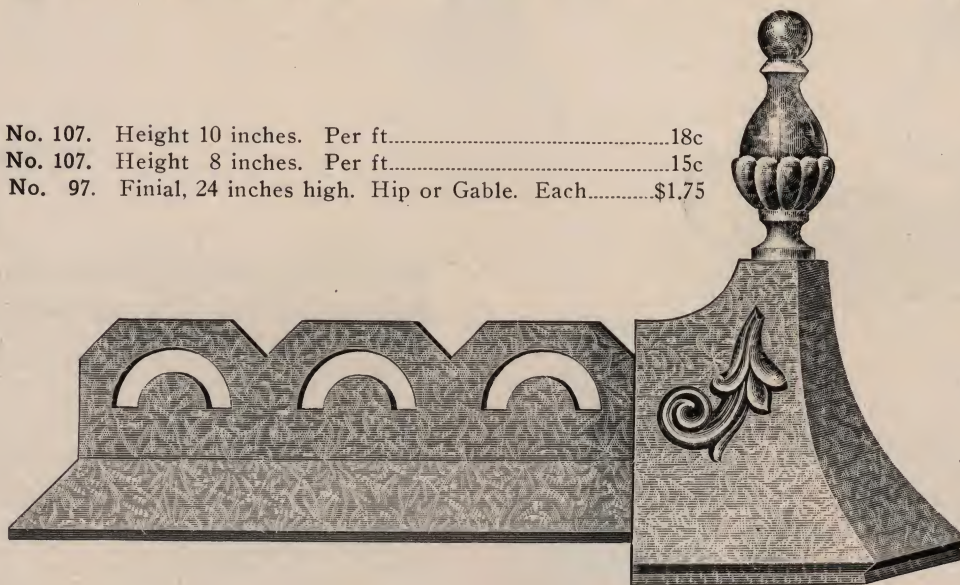
No. 94. Finial, 24 in. high. Hip or Gable. Each.. 3.50

CRESTINGS AND FINIALS—Continued

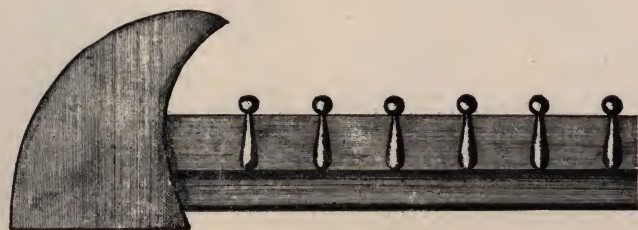


- No. 103. Finial for Hip or Gable, height 10 in. Length 13 in. Price each.....\$1.25
 No. 102. Finial for Hip, height 11 inches. Price each.....1.12
 No. 101. Finial, same as No. 102, except for Gable. Price each......90
 No. 59. Galvanized steel, height 4 in., covering length 12 in. Price each......15
 No. 59. Painted tin, height 4 in., covering length 12 in. Price each......10
 No. 59. Copper, height 4 in., covering length 12 in. Price each......45

- No. 107. Height 10 inches. Per ft.....18c
 No. 107. Height 8 inches. Per ft.....15c
 No. 97. Finial, 24 inches high. Hip or Gable. Each.....\$1.75



- No. 23. Height 6 inches. Price per ft.....25c
 No. 92. Finial 18 inches high. Hip or Gable. Each.....\$1.00



- No. 90. Finial 16 inches high. Each.....\$1.15
 No. 90. Finial 12 inches high. Each......90
 No. 22. Height 8 inches. Price per ft......35



CRESTINGS AND FINIALS—Continued



No. 21

Height $4\frac{1}{2}$ in. Width of Apron 3 in. Price per ft.....10c
 Height 6 in. Width of Apron $3\frac{1}{2}$ in. Price per ft.....14c
 Height $7\frac{1}{2}$ in. Width of Apron 4 in. Price per ft.....18c



No. 20

Height $4\frac{1}{2}$ in. Width of Apron 3 in. Price per ft.....10c
 Height 6 in. Width of Apron $3\frac{1}{2}$ in. Price per ft.....14c
 Height $7\frac{1}{2}$ in. Width of Apron 4 in. Price per ft.....18c



No. 19

Height 6 in. Width of Apron 3 in. Price per ft.....14c
 Height 8 in. Width of Apron $3\frac{1}{2}$ in. Price per ft.....18c
 Height 10 in. Width of Apron 4 in. Price per ft.....21c



No. 18

Height 8 in. Width of Apron 4 in. Price per ft.....18c
 Height $9\frac{1}{2}$ in. Width of Apron 4 in. Price per ft.....21c
 Height 11 in. Width of Apron 5 in. Price per ft.....25c



No. 24

$1\frac{1}{2}$ in. in parts. Each.....5c
 2 in. in parts. Each.....6c

$2\frac{1}{2}$ in. in parts. Each..... $7\frac{1}{2}$ c
 3 in. in parts. Each.....10c

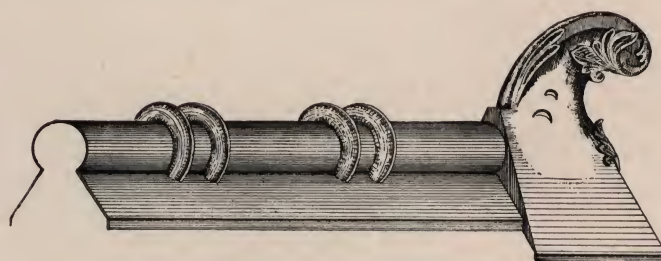
$3\frac{1}{2}$ in. in parts. Each.....13c
 4 in. in parts. Each.....18c

Used in making Nos. 62, 63 and 64. Of these $1\frac{1}{2}$ in. and 2 in. are frequently used on roll for hip finish.



No. 62

$1\frac{1}{2}$ in. Roll, per ft.....11c
 2 in. Roll, per ft.....13c
 $2\frac{1}{2}$ in. Roll, per ft.....16c
 3 in. Roll, per ft.....20c
 $3\frac{1}{2}$ in. Roll, per ft.....25c
 4 in. Roll, per ft.....33c

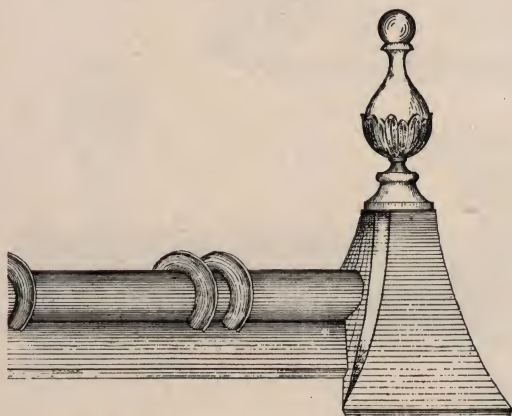


No. 63

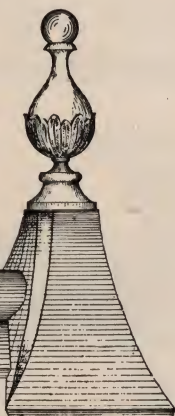
No. 63. $1\frac{1}{2}$ in. Roll, per ft.....13c
 No. 63. $2\frac{1}{2}$ in. Roll, per ft.....20c
 No. 63. $3\frac{1}{2}$ in. Roll, per ft.....31c

No. 40

2 in. Roll, per ft.....16c
 3 in. Roll, per ft.....25c
 4 in. Roll, per ft.....38c
 No. 40. Finial Hip or Gable. Each.....\$4.00



No. 64. Cresting



No. 41. Finial

Ball Finials

4 in. Ball Finials for $1\frac{1}{2}$ in. Roll. Each.....35c
 5 in. Ball Finials for 2 in. Roll. Each.....45c
 6 in. Ball Finials for $2\frac{1}{2}$ in. Roll. Each.....60c
 7 in. Ball Finials for $3\frac{1}{2}$ in. Roll. Each.....75c
 8 in. Ball Finials for 4 in. Roll. Each.....\$1.00

No. 64. $1\frac{1}{2}$ in. Roll, per ft.....12c
 No. 64. 2 in. Roll, per ft.....14c
 No. 64. $2\frac{1}{2}$ in. Roll, per ft.....17c
 No. 64. 3 in. Roll, per ft.....21c
 No. 64. $3\frac{1}{2}$ in. Roll, per ft.....27c
 No. 64. 4 in. Roll, per ft.....36c
 No. 41. Finial. Height 20 in. Each.....\$2.00

Finials



No. 89. Height 18 in.....\$1.75



No. 94. Height 24 in.....\$3.50



No. 39. Height 24 in.....\$3.75



No. 38. Height 23 in.....\$1.50



No. 36. Height 22 in.....\$2.50



No. 41. Height 20 in.....\$2.00

Any of the above Finials are designed to be used as Cresting Finials, but are sometimes used on porch towers, and on one-story house towers, and are very appropriate for this purpose. You should not fail to send pitch and plan of roofs.

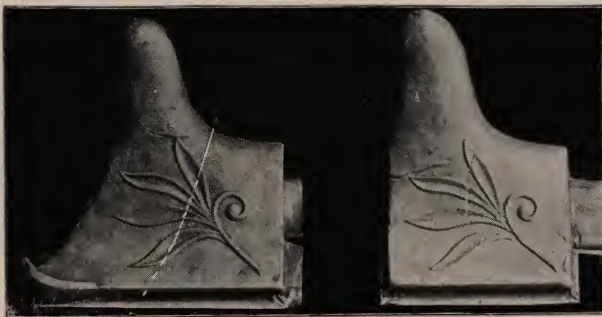
No. 37. Height 20 in.
For Hip or Gable..\$2.00No. 17. Height 20 in.
For Hip or Gable..\$2.25No. 97. Height 24 in. For
Hip or Gable.....\$1.75No. 40. Height 20 in. For
Hip or Gable.....\$4.00

Finials from architect's details is a specialty. Send your plans to us.

Things to Remember: Never send in an order for Cresting Finials without specifying whether they are for hips or gables. We will make the crestings to fit the different sections of the roof, if the various lengths are sent us. A very good plan is to make a sketch of the roof plan, and send with your order.



FINIALS—Continued



No. 56. Hip

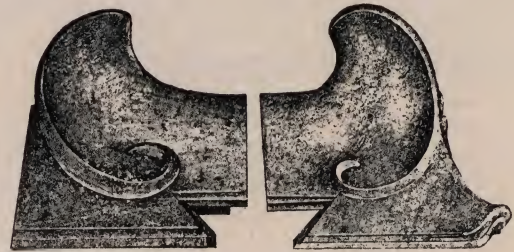
No. 56. Gable

		Price, each
No. 56.	Hip Finial, zinc; height 9 in.....	\$1.12
No. 56.	Gable Finial, zinc; height 9 in.....	.75
No. 56.	Hip Finial, zinc; height 12 in.....	1.25
No. 56.	Gable Finial, zinc; height 12 in.....	.90
No. 56.	Hip Finial, copper; height 9 in.....	3.00
No. 56.	Gable Finial, copper; height 9 in.....	2.40
No. 56.	Hip Finial, copper; height 12 in.....	3.60
No. 56.	Gable Finial, copper; height 12 in.....	2.70
No. 116.	Hip, zinc; height 10 in.....	1.25
No. 117.	Gable zinc; height 10 in.....	.90
No. 101.	Gable, zinc; height 11 in.....	.90
No. 102.	Hip, zinc; height 11 in.....	1.12
No. 55.	Hip, zinc; height 12 in.....	2.25
No. 55.	Gable, zinc; height 12 in.....	1.90
No. 98.	Hip, galvanized; height 12 in.....	1.00
No. 98.	Gable, galvanized; height 12 in.....	1.00
No. 121.	Hip, galvanized; height 10 in.....	2.00
No. 122.	Gable, galvanized; height 8 in.....	1.50
No. 123.	Hip, galvanized; height 8 in.....	1.80
No. 124.	For ridge roll; height 9 in.....	.36



No. 116. Hip

No. 117. Gable



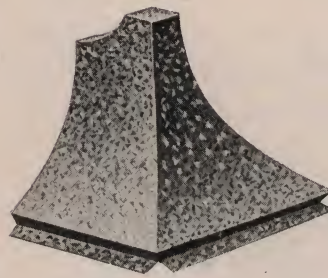
No. 55. Gable

No. 55. Hip



No. 102. Hip

No. 101. Gable



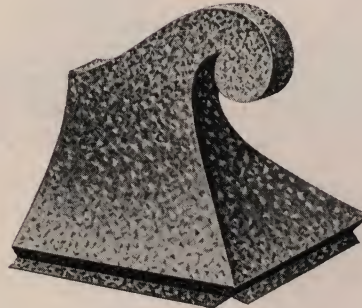
No. 123. Hip



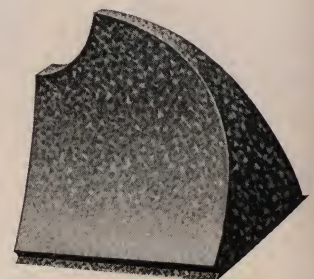
No. 98. Hip or Gable



No. 124. Used on Ridge Roll

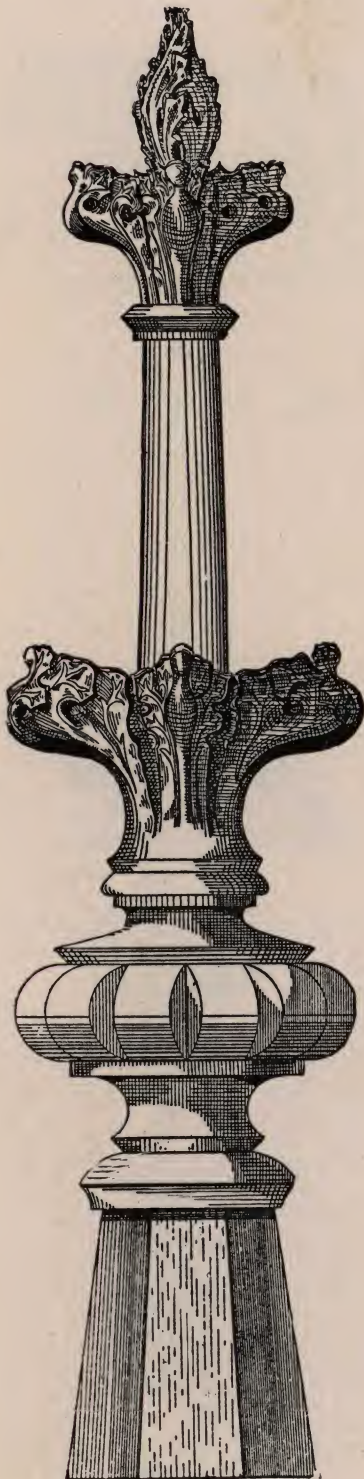


No. 121. Hip

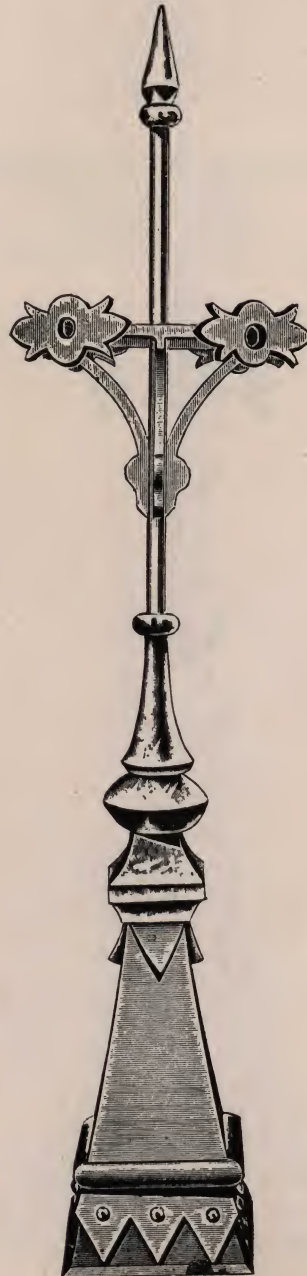


No. 122. Gable

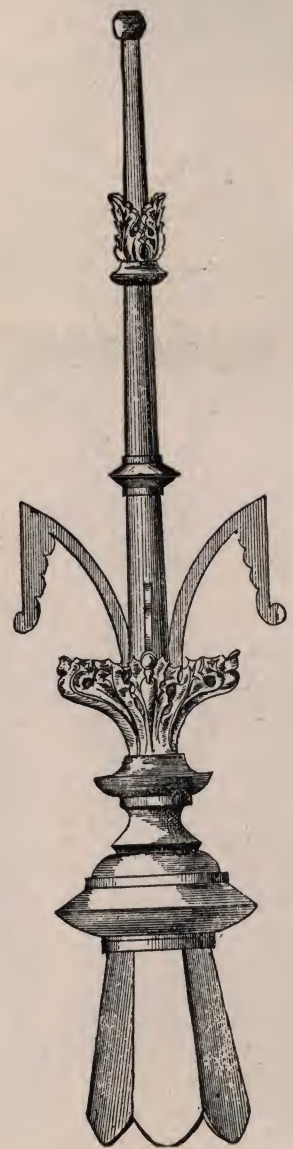
Tower Finials

**No. 54**

Height 8 feet. Price \$27.00

**No. 44**

Height 8 feet. Price \$13.50

**No. 4**

Height 6½ feet. Price \$12.00

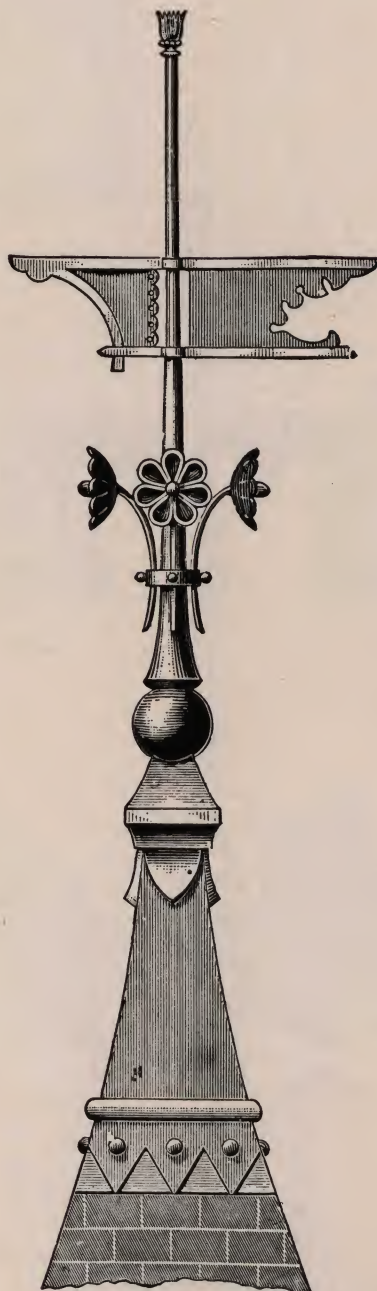
Do not fail to send plan and pitch of tower roof with your orders. Bases will be changed to suit the plan of tower without extra charge. Crating charged for at cost.



TOWER FINIALS—Continued



No. 60
Height 8 feet. Price.....\$17.00



No. 50
Height 7 feet. Price.....\$16.50

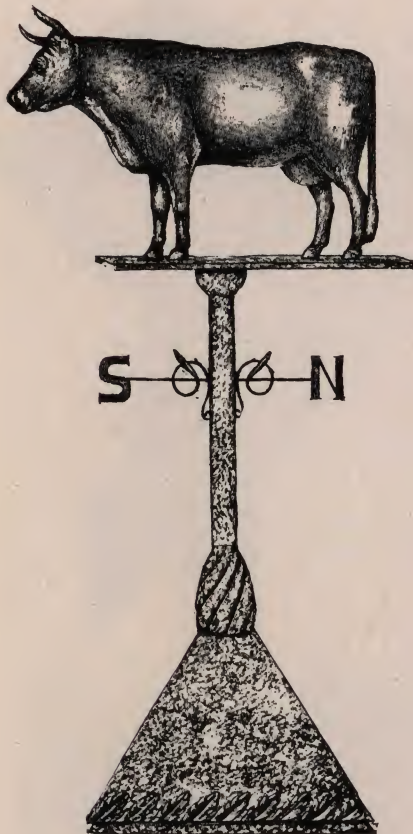


No. 6
Height 6 ft. Price.....\$12.00

The mechanical device by which we attach the vane to the stem is so perfect that we guarantee the vane to work in the slightest breeze and will never rust or fail to act. In ordering do not fail to send plan and pitch of the tower roof. We will change the base of any finial to suit the roof without extra charge.

Finials to architect's detail is a feature in which we specialize. Crating at cost.

TOWER FINIALS—Continued



No. 111

No. 111. Height 6½ ft. Price..\$24.00

We furnish the finial above with the following animals as vanes: horse, sheep and hog. They are all full-bodied, being about 6 inches through by 15 inches high by 30 inches long. The construction is such that the animal will always have its head pointed into the wind. The slightest breeze will cause the vane to move. For illustrations of the other vanes, see pages 43, 44, 120 and 121.



No. 1251

No. 1251. Height 20 in. Price as shown.....\$4.50



No. 53

No. 53. Height 5 ft. Price.....\$18.00
Base can be made square or octagon.

No. 42

Height 5 ft. Price.....\$7.50



No. 87

Height 36 in. Price as shown.....\$7.00



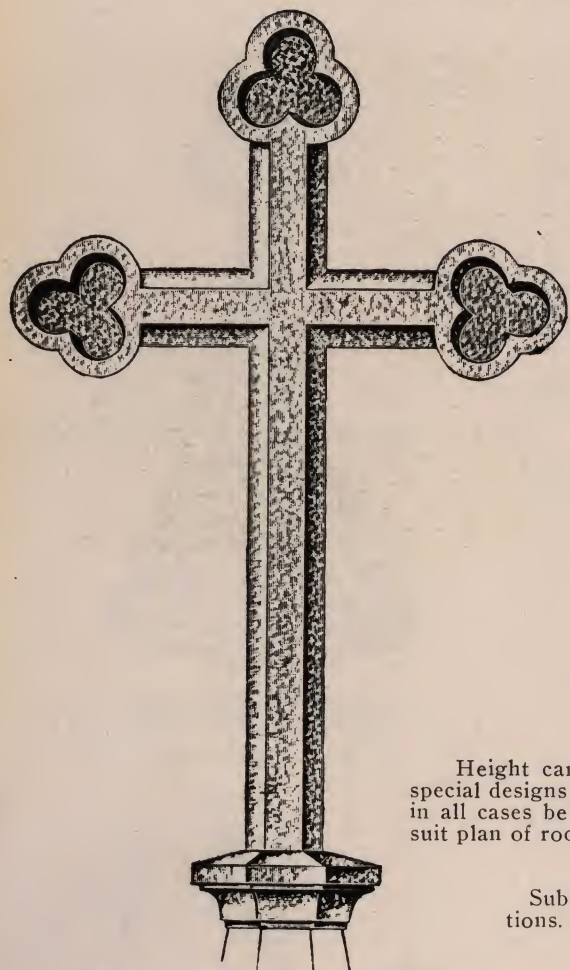
No. 80

Height 4 ft.
Price\$6.75

Finials to architect's details is a special feature with us. Crating charged at cost.



Tower and Gable Crosses



No. 292 Height 10 ft. Price.....\$18.00



No. 82
Height 6 ft. Price.....\$6.00



No. 52
Height 5 ft. Price.....\$21.00



No. 1324
7 ft. high. Price.....\$15.00



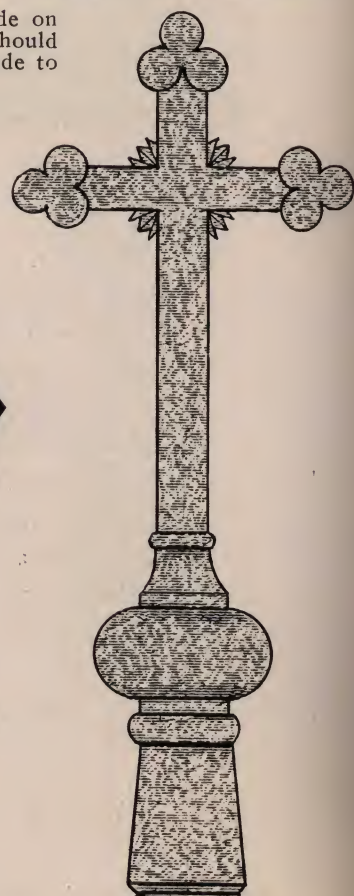
No. 1325
6 ft. high. Price.....\$12.50

Height can be made to suit. Quotations will be made on special designs of Crosses. The plan and pitch of the roof should in all cases be sent with the order. The bases will be made to suit plan of roof without additional charge.

Submit architect's details for quotations. Any sheet metal will be employed.



No. 1326
Height 5 ft. Price.....\$10.50



No. 83
Height 8 ft. Price.....\$12.00

Animal Ornaments



No. 1296. Length of face 15 in. Proj. of face 15 in. Spread of horns 15 or 31 in. Complete\$10.00



No. 362. 26 in. proj., 24 in. high. Each..\$16.00



No. 219. 9x28 in. Each.....\$2.00



No. 1250. 36 in. high. Complete.....\$18.00



No. 1276. 9 in high. 16-inch spread of wings. Each..\$6.00

The mountings for these figures can be arranged to suit your requirements.

See pages 43, 44, 118 and 121 for other designs of figures and mountings.



No. 108
Height 5½ ft. Price.....\$13.50



Animal Ornaments or Vanes (Zinc)



No. 305



No. 306



No. 307



No. 308

All above full-bodied, 6 in. through by 15 in. high by 30 in. long. List price, each.....\$12.00

We have No. 306 in a size 7 in. through by 21 in. high by 52 in. long. List price, each.....\$18.00



No. 309



No. 310



No. 311



No. 312



No. 313



No. 314

These are 1 in. through by 9 in. high by 15 in. long. List prices, each.....\$3.00

The figures on this page can be mounted in any manner that you may require. Let us have specifications and we will quote on the mounting additional. Some styles of mountings are shown on pages 43, 44, 133, 135.

Gable Ornaments



No. 828

Size 96x32 inches. On background. Price \$8.25.

257
Size 60x21 inches. Price, \$3.50.256
Size 60x24 inches. Price, \$4.00.

We can furnish a design for any size background required, which will require us adding to the design to fill space should it be larger or deducting if smaller. The designs shown herewith show only a small number that it is possible to make up. Give us the height through center, the length at bottom and we can furnish the material or quote prices. We can furnish the background with mouldings or with date of year or your house number as a part.

Crating charged at cost.



GABLE ORNAMENTS—Continued



No. 875

Size 52x26 inches. On background.....\$3.00
Size 36x24 inches. Ornament only..... 2.00



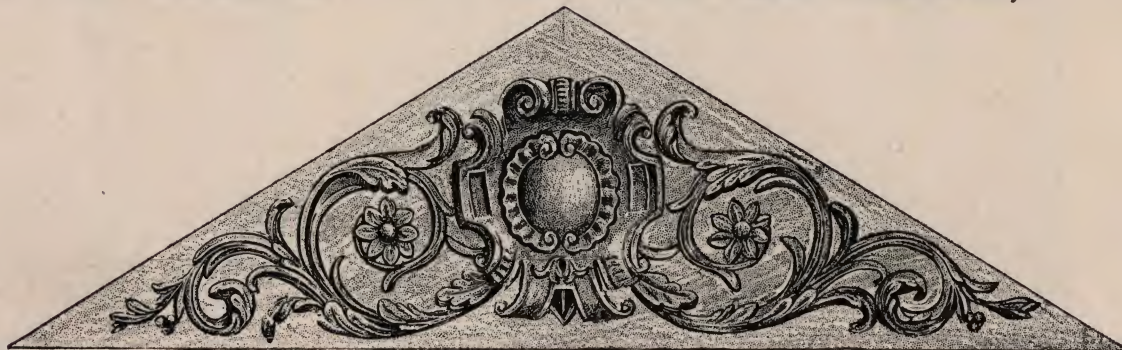
No. 834

Size 46x16 inches. Price.....\$1.75



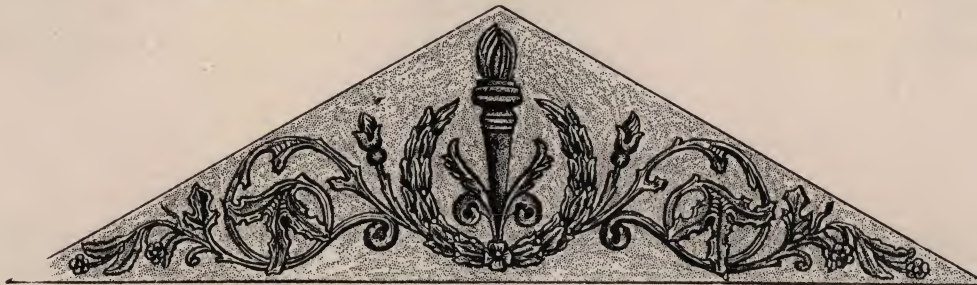
No. 842

Size 44x10 inches. On background.....\$1.50
Size 36x7 inches. Ornament only..... 1.25



No. 840

Size 76x24 inches. Price.....\$4.75



No. 832

Size 96x25 inches. Price.....\$5.25



No. 837

Size 48x15 inches. On background...\$1.75
Size 42x11 inches. Ornament only... 1.40

Background made any size—ornaments furnished to fit. Prices quoted on receipt of information.



Signs—Letters—Numerals

B G 2

Style No. 1233 (pressed zinc)

6 inch. Each.....\$	.21	10 inch. Each.....\$	.42
8 inch. Each.....	.30	12 inch. Each.....	.51

DG8

Style No. 1252 (built-up galvanized)

AB5

Style No. 1254 (built-up galvanized)

OR4

Style No. 1253 (built-up galvanized)

List Prices Nos. 1252, 1253, 1254

3 inch. Each.....\$	.75	10 inch. Each.....\$	1.08
4 inch. Each.....	.75	12 inch. Each.....	1.15
5 inch. Each.....	.90	14 inch. Each.....	1.20
6 inch. Each.....	.90	16 inch. Each.....	1.30
8 inch. Each.....	1.00	18 inch. Each.....	1.45



No. 342

Letters and numbers as above list. Back ground 15c per square foot list.



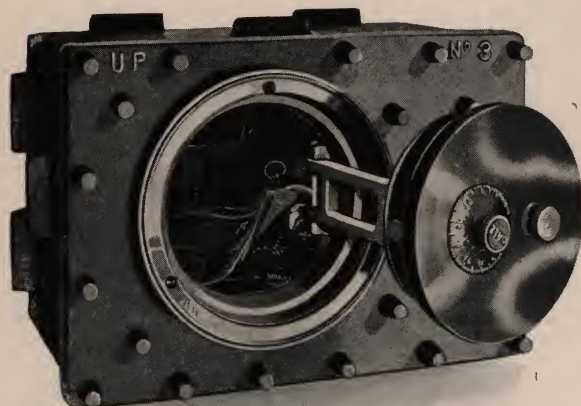
No. 343

Letters and numbers as above lists. Back ground 15c per square foot list.

We can furnish the above in any kind of sheet metal. They can be arranged with metal straps for bricking-in with wall or for attachment with expansion-bolts or by nailing. Mouldings on backgrounds when furnished by us can be made to any detail. Painting or gold-leafing to your specifications at extra charge.

We make metal electric signs complete ready for installation. Let us know your requirements.

We make woven wire and metal signs for any requirement.



Nos. 1001, 1002, 1003 Wall Safes

Willis Wall Safes

Size No. 1001 is for 8 inch brick wall. Inside measurements $4\frac{1}{2}$ inches deep, $7\frac{1}{4}$ inches high, $10\frac{1}{4}$ inches long. For outside measurements add $2\frac{1}{2}$ inches to each.

Size No. 1002 is for 12 inch brick wall. Inside measurements $7\frac{1}{4}$ inches deep, $7\frac{1}{4}$ inches high, $10\frac{1}{4}$ inches long. Add $2\frac{1}{2}$ inches to each for outside size.

Size No. 1003 is for 12 inch brick wall. Inside measurements $7\frac{1}{4}$ inches deep, 9 inches high, $13\frac{1}{2}$ inches long. Add $2\frac{1}{2}$ inches for outside size.

Size No. 1004 is made especially for frame construction and is placed between the studding, being held in place by iron brackets. Inside measurements are the same as Safe No. 1001 above, but as this has a reinforced fire-proof covering the outside dimensions are $7\frac{1}{2}$ inches deep, $10\frac{1}{2}$ inches high, 14 inches wide.

List Prices and Shipping Weight

No. 1001, weight 55 pounds.	Each.....	\$18.00
No. 1002, weight 65 pounds.	Each.....	18.00
No. 1003, weight 85 pounds.	Each.....	20.00
No. 1004, weight 85 pounds.	Each.....	20.00

Description

The metal in these safes is a combination of iron and steel, melted and mixed in the furnace, producing the toughest metal known (equal to cast steel).

The built-in-the-wall feature is a protection in itself; any attack upon the safe would instantly be heard all over the building. Only the dial is exposed, which a small picture will conceal. Projecting lugs hold the safe secure in the wall.

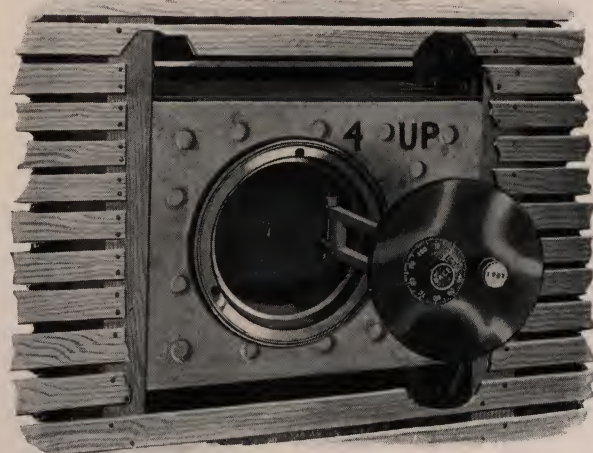
No. 1004 Safe is securely fastened to studdings with four iron brackets.

The inside of our safes are lined with asbestos lumber (not asbestos paper). There is an air space between the metal and inside asbestos, no other construction will guarantee the safety of the contents in the safe. As a protection for the home, the Willis Wall Safe stands without an equal and alone as the greatest check upon thieves, dishonest servants, fire and water. The Willis Wall Safe can be easily put into the wall of occupied buildings. It requires the cutting of a hole breast high in the wall a little larger than the safe, inserting the safe and cementing it in position at a cost of less than \$5, making practically no dirt or causing any inconvenience to the occupants. It is easily set in chimneys, closets, sliding door partitions and fireplaces.

The Willis Wall Safe has a three tumbler combination lock and dial with 100 numbers, admitting of numerous combinations, and is of the very latest improved mechanism. The lock parts, bolt, and all the operating mechanism are brass, fitting snugly in pockets in the heavy castings, an immense improvement on the tapering spring tumblers, the cause of so much annoyance in many wall safes. The combinations can be changed at will in two minutes time.

The manufacturers keep a complete record of all safes and can furnish information to unlock the safe should the combination be lost or should you want them to furnish new combinations they will gladly do so. You must give us the number as shown on the bolt knob of the door.

The Willis Wall Safe has a handsome circular door which swings out of the opening on a bracket arm, leaving the full 6-inch circular opening accessible. It is bordered with an adjustable ring which admits of adjustment between the safe and plastered walls.



No. 1004 Wall Safe

ICELESS COOLING

The Willis Way:—No chemicals

Style No. 271

To be once and forever without the bother and expense of keeping ice—to know surely and definitely that the perishable foods of your household, such as meat, butter, eggs, cream, etc., are always sweet and cold, ready for the table at an instant's notice, is all made possible by the Willis Iceless Refrigerator. It is neat in appearance and strong in construction, but unlike most modern appliances, it does not cost much to own. The price of a Willis Iceless Refrigerator is not even as much as that of a good sized, old style ice box. Even if the Willis costs ten times as much as it does, you would be bound to acknowledge it a real money saver—it soon pays for itself.

Never a penny's worth of ice necessary and more reliable than any

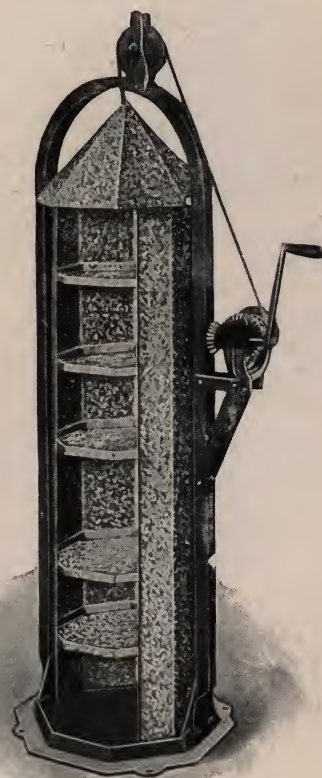
other method of cooling—think of it—the ice problem is indeed solved.

Not even the hottest day this summer will make a bit of difference—you can strike the word "ice" off your list entirely—and no dwelling or farm, however remote, need suffer for want of sweet, fresh food with a Willis Iceless Refrigerator on their premises.

Ice cannot keep a low, even temperature, while the Willis Refrigerator cannot keep the temperature anything else but low and even. Milk, cream and butter are often spoiled by the varying temperature of the old style ice box.



CLOSED



OPEN

You can see from the picture that the Willis Iceless Refrigerator is of neat and compact construction—it will look well anywhere. The picture herewith gives you a very good idea of this construction. The cylinder is covered by a bug and dust-proof top, which opens and closes automatically. The shelves in the carrier are removable, making them easy to clean; also allowing them to be spaced any desired distance apart to accommodate all kinds and sizes of vessels. Food odors cannot taint the water of a well nor moisture injure the contents of the refrigerator, as the cylinder in which the carrier travels is water tight. This tube is a guarantee against ruining foodstuffs placed in the carrier by an unexpected raising of the water; and there is no chance for anything to taint the water of the well. The Refrigerator works equally well when placed in the ground.

The Refrigerator consists of a cylinder, 14 or 16 inches across, by 8 or 10 feet long (8 feet being the standard size), in which the carrier is raised or lowered by a cogged drum, which a child can operate. The carrier containing the shelves is 4 feet long—it has an automatic locking device which makes it impossible for the carrier to fall into the cylinder.

In ordering measure the depth of the well to the water, then place your order so the water will not rise on the tube. (See picture).

To erect the Refrigerators set the tube on the well platform, mark the hole a little larger and cut that part out; then let the tube into the well and set the lagscrews through the cast iron platform curb. Bolt the windlass to the angle arch, run the chain back off the windlass and attach same to the carrier or cupboard, then set this part to its proper place on the platform curb and bolt the angle arch to the cast iron platform curb. Your Refrigerator is now ready for use at no further expense. The whole procedure should not require more than one hour. Everything necessary for the erection comes with the Refrigerator.

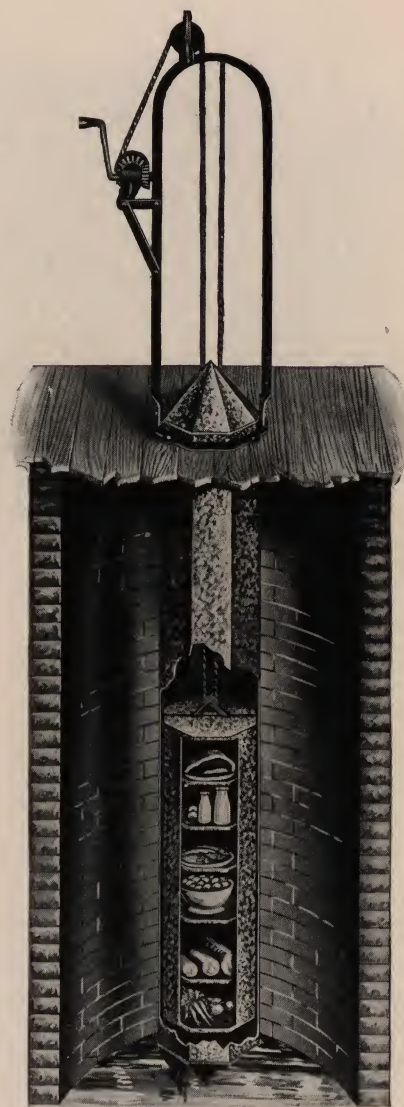
Every Willis Iceless Refrigerator is fully guaranteed, with the understanding that it will fulfill every claim we make for it or your money will be refunded.

Compare these prices with those of other refrigerators and remember that not only is the first cost of a Willis Refrigerator lower than that of an old style ice box of equal capacity, but the Willis will last forever and give your bank account a much better chance to grow because you don't have to buy ice.

No. 271

Willis Iceless Refrigerator (8 ft. long by 14 in. diameter).....	\$20.00
Willis Iceless Refrigerator (10 ft. long by 14 in. diameter).....	21.50
Willis Iceless Refrigerator (8 ft. long by 16 in. diameter).....	23.00
Willis Iceless Refrigerator (10 ft. long by 16 in. diameter).....	25.00

Additional length of tube can be supplied at small charge.



No. 271



No. 81

No. 81 The Willis Vegetable Display Stand

For the
Groceryman

Keeps vegetables fresh,
clean and sal-
able.

Makes for an
attractive display
before the
customer.

Each\$28.50



No. 91

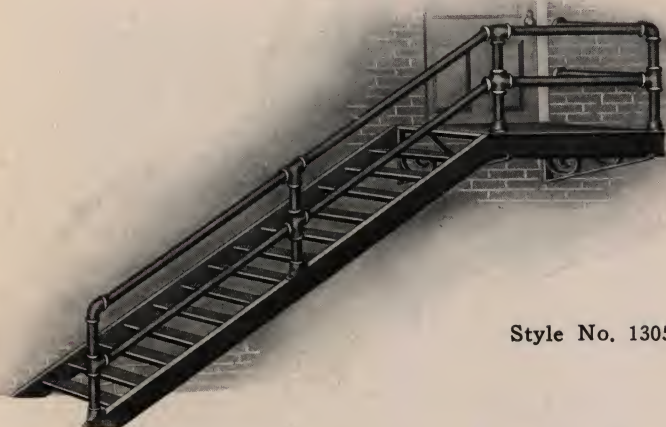
Grocery Baskets

An all metal delivery basket.
Easily cleaned and sanitary, com-
bined with lasting service and com-
pactness when not in use.

Size A. 18 x11¾x6½ in. Each.....\$1.90
Size B. 15½x11 x7 in. Each..... 1.80

Send for special circulars describing the refrigerator, display stand and grocery baskets.

Iron Stairways



Style No. 1305



Style No. 1304

Prices quoted on receipt of the necessary information.

We quote on any requirement.



No. 1319

Single or Double
Timber Stirrup



No. 1317. Joist Anchor



No. 1318. Wall Plate Anchor

Any standard shape and size cut, punched, riveted or bolted to your specification.

Let us figure on your requirements.



No. 1406. Box Girder



No. 1404. I Beam and Channel Girder



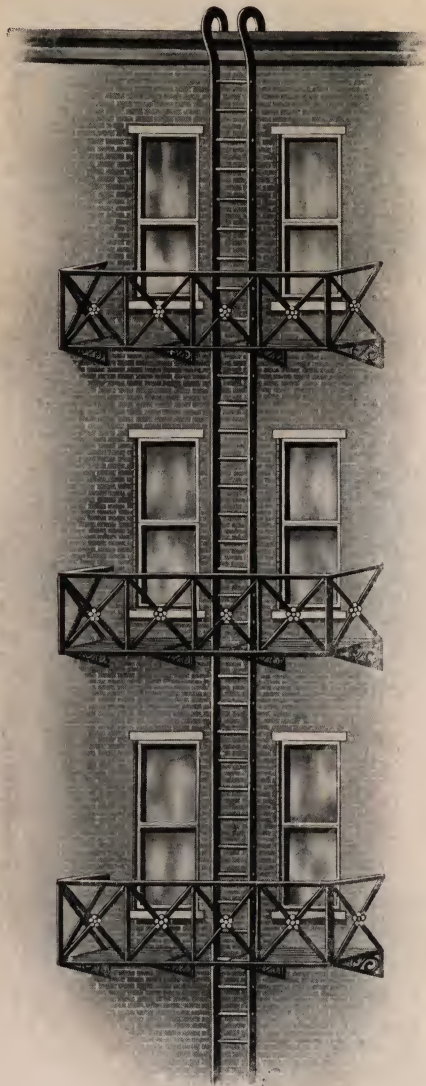
No. 1403. I Beam Box Girder



No. 1405. I Beam Girder



Fire Escapes



No. 1301



No. 1302

Prices quoted on receipt of specifications covering requirements.

Special fire escapes constructed to drawings. Stairway fire escapes are shown on page 91. Any combination may be employed.



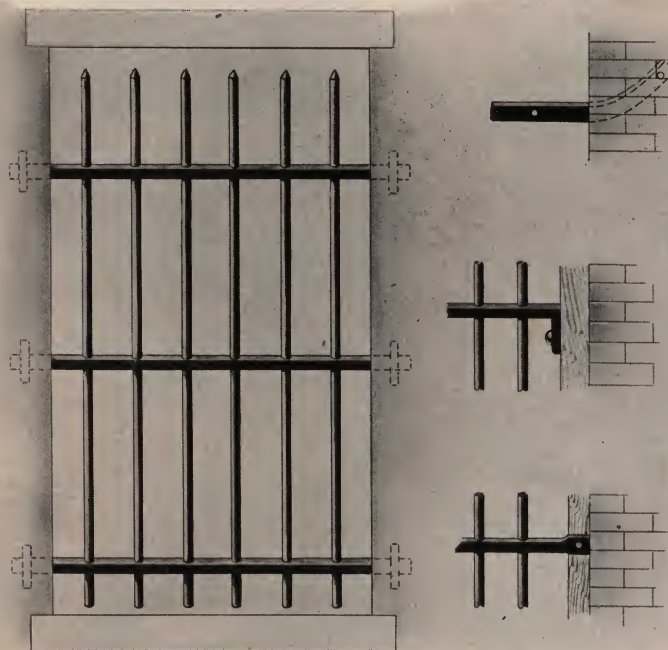
No. 1323



No. 1322

We furnish only an exceptional grade of sash weights all one-piece and do not employ tin cans or other material of like grade in their manufacture. The round weights can be had in standard sizes. The square weights are $1\frac{7}{8}$ inches by $2\frac{1}{4}$ inches, are one-piece and can be furnished in any size. Prices quoted on receipt of specifications.

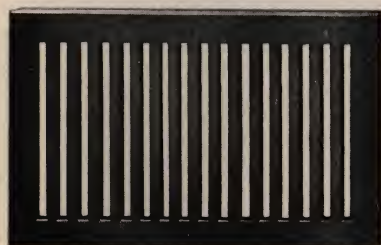
Window Guards



No. 1310. Detail of Heavy Round Bar Construction



No. 1312. Steel Cellar Door



No. 1314. Wall Ventilator

We can furnish cast iron columns, etc., on short notice. Lintles, beams, girders, trusses from plans or we furnish detail drawings.

Whatever your iron requirement is we will appreciate an opportunity of quoting you prices.



No. 1309. Detail of Wire Guard Made with Iron Frame



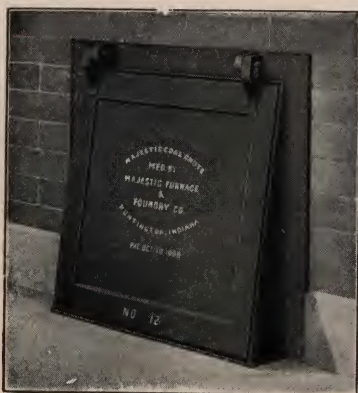
No. 1308. Detail of Guard Made with Round Iron Frame



No. 1315. Manhole and Cess Pool or Coal Hole Ring and Cover



Willis-Majestic Coal Chutes



	Price	Width, inches	Height, inches	Depth, inches	Description	Weight
Style No. 272.....	\$10.00	24	17	13	With Glass and Hopper	95
	9.00	24	17	13	Without Glass	80
	8.00	24	17	13	Without Hopper	85
	7.00	24	17	13	Without Hopper or Glass	65
Style No. 273.....	16.50	33	22	18	With Glass and Hopper	180
	15.00	33	22	18	Without Glass	145
	14.00	33	22	18	Without Hopper	150
	12.50	33	22	18	Without Hopper or Glass	125
Style No. 280.....	8.00	24	17	13	With Hopper	85
	6.00	24	17	13	Without Hopper	70
Style No. 281.....	15.00	33	22	18	With Hopper	155
	12.50	33	22	18	Without Hopper	135

The above are the standard chutes.

Grade Line Chute

Very low foundation and, in some cases, no foundation above the grade line, are responsible for the introduction of this type of chute.

	Price	Size Door	Wall Opening	Length	Weight
Style No. 274.....	\$18.00	18x24	25 in. wide, 24 in. high	36	180
	24.00	24x30	31 in. wide, 31 in. high	42	280

Store Building Chute

This Coal Chute can also be used in homes or apartments where the grade line and floor are on the same level,—fine for hotels or hospitals for receiving vegetables.

Style No. 289

Price	Without Hopper	Size of Door	Total Height	Opening at Grade	Weight
\$20.00	\$18.00	22 in. wide, 20 in. high	48	24x16	180
25.00	22.00	30 in. wide, 24 in. high	52	30x20	235





Willis-Majestic Built-In Kitchen Garbage Receiver

It is placed in the wall, the front opening into the kitchen to receive the garbage; the back opening onto the porch or easily accessible place on the outside of the house for the removal of the garbage can.

Dimensions are as follows: The inside and outside castings are each 20½ in. wide and 31 in. high, the body or size of opening in wall is 19 in. wide and 29 in. high. The body is adjustable, for 8 to 12 in. walls. For narrower walls, use casing on each side.

	Price	Weight
Style No. 259. Built-in Garbage Receiver and one can, 12 gal. capacity.....	\$15.00	175
Style No. 260. Built-in Garbage Receiver and two cans; also outside underground container, with iron lid for extra can.....	22.50	210

This outside container used where garbage ordinance compels owner to deliver garbage pail at driveway.

Willis-Majestic Milk Bottle and Package Receiver

The deliveryman finds the outside door unlocked, removes the empty bottles and replaces with filled ones. With the opening of the outside door, the chain is drawn outward and the friction on chain holds the slack, leaving the gravity latch in locking position when door is closed by deliveryman. It locks automatically.

The inside or kitchen door is provided with a nicked refrigerator latch and handle and cannot be opened from the outside.

The outside measurements of frames are 16¼ inches wide, 14 inches high.

The outside measurements of the body or wall opening are 14 inches wide, 11½ in. high.

The depth is equal to thickness of wall.

The Receiver will hold 6 quart bottles in 6 in. wall, more in thicker wall. Made in two different depths of adjustable body. Shipping weight 40 pounds.

Style No. 252

No. 1. Adjustable from 5 in. to 8 in.....	\$5.00
No. 2. Adjustable from 8 in. to 14 in.....	5.00



Willis-Majestic Underground Garbage Receiver

The Majestic comes in three sections—Ingot Iron receptacle for can, the galvanized can and cast iron top and lid.

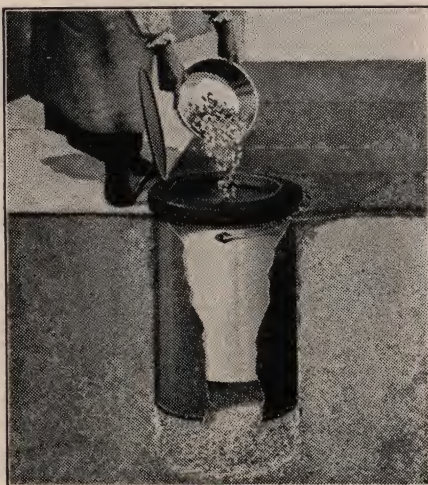
To install, just dig a hole the size of the receptacle and put the receptacle into the ground. Put the can inside and the top in place. It is always closed, water-tight and fly proof.

The only part exposed is the top and door. When one wants to empty garbage, just raise the step with the foot and press down. It closes at a touch. Nothing could be more simple to operate or practical to use.

SIZES AND PRICES

Style No. 261

Shell Diam.	Shell Depth	Can Capacity	Price	Weight
16 in.	18 in.	9 gal.	\$ 5.00	55
16 in.	22 in.	11 gal.	6.00	60
16 in.	26 in.	15 gal.	7.50	65
19 in.	28 in.	20 gal.	10.00	110
19 in.	30 in.	25 gal.	11.00	120



Ceiling Centers



No. 379. Ventilating Centers. Diameter 4 ft. Each, complete.....\$18.75

Our Ventilating Centers are made of zinc, backed up with heavy galvanized wire cloth and securely supported at all points, and when we know the size of the ventilating shaft, and whether square or round, we provide places for the supporting attachments.

The Roof Ventilators appropriate for public building work are shown on pages 43, 44, 45, and are generally made of octagon for this work. These Ventilators are made of substantial material and are guaranteed as to working qualities, workmanship and quality of material and will be replaced if found defective in any way.

CEILING CENTERS—Continued



No. 384. Ventilating Center. Diameter 52 in. Each....\$15.00



No. 393. Diam. 28 in. Each..\$4.00

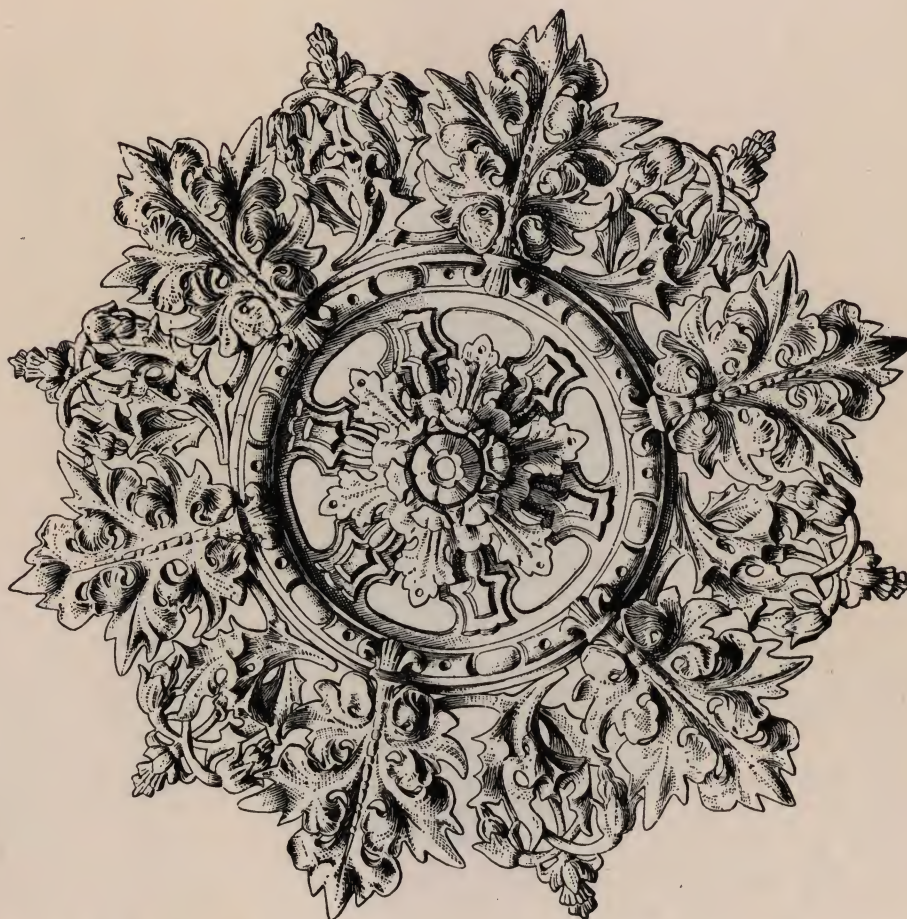


No. 392. 24x24 in. Each.....\$2.25

Centers are manufactured by us to architect's detail, using moldings and ornaments as required.



CEILING CENTERS—Continued



No. 375. Ventilating Center. Diameter 58 in. Each\$24.00



No. 394. 26x17 in. Each....\$1.50



No. 378. 18x25 in. Each....\$1.50

Ornaments



No. 1229

3½ x 3½ in.	.....\$ .20
4½ x 5 in.	..... .30
6 x 6½ in.	..... .50
8 x 9½ in.	..... .90
14 x 15 in.	..... 2.50
17 x 21 in.	..... 3.75
20 x 24 in.	..... 4.50



No. 1275

10x10 in. For Crown Mould....\$.90



No. 1280

9x 9 in. For Crown Mould.... .90



No. 952

3 x 4 in.	In parts.....\$.25
3 x 5 in.	In parts..... .25
4 x 6 in.	In parts..... .35
4 x 7 in.	In parts..... .35
4½ x 6 in.	In parts..... .30
5 x 8 in.	In parts..... .45
6 x 8 in.	In parts..... .40
6 x 9 in.	In parts..... .50
7 x 10 in.	In parts..... .60
8 x 12 in.	In parts..... .70
10 x 12 in.	In parts..... .80
10 x 14 in.	In parts..... 1.00
12 x 14 in.	In parts..... 1.20
18 x 20 in.	In parts..... 2.50
24 x 26 in.	In parts..... 4.50



No. 1274

3½ x 5½ in.\$.50



No. 688

2 in. Each.....3c



No. 638

2 in. Each.....3c
3 in. Each.....5c

No. 640

3 in. Each.....5c



No. 680

4 in. Each.....8c



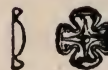
No. 619

7 in. Each.....24c



No. 677

7 in. Each.....25c



No. 678

3½ in. Each.....8c



No. 685

4 in. Each.....8c



No. 632

8 in. Each.....28c



No. 637

8 in. Each.....22c



No. 602

6 in. Each.....18c



No. 687

4½ in. Each.....10c



No. 666

5 in. Each.....12c



No. 629

8½ in. Each.....28c



No. 603

8 in. Each.....25c



No. 686

4 in. Each.....8c



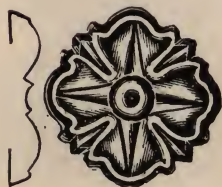
No. 657

10 in. Each.....40c



No. 625

9 in. Each.....30c



No. 623

6½ in. Each.....20c



No. 263

6 in. Each.....20c
9 in. Each.....36c

No. 641

8½ in. Each.....28c



No. 650

5 in. Each.....15c
9 in. Each.....36c



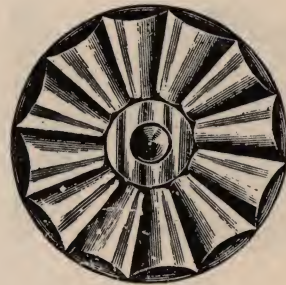
ORNAMENTS—Continued



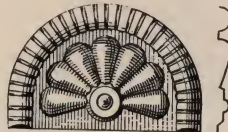
No. 695. 12 in. Each.....60c



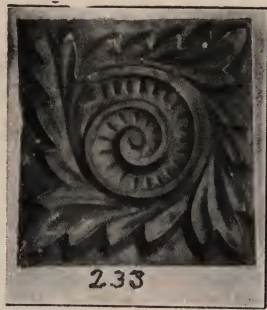
No. 639. 11x5½ in. Each.....25c



No. 622. 12 in. Each.....50c



No. 652. 12½x8 in. Each.....45c



No. 233. 12x12 in.....50c



No. 613. 14x7 in. Each.....50c



No. 659. 16x7 in. Each.....40c



No. 635

3 in.	Each.....	4c
4 in.	Each.....	6c
5 in.	Each.....	9c
6 in.	Each.....	14c
9 in.	Each.....	25c



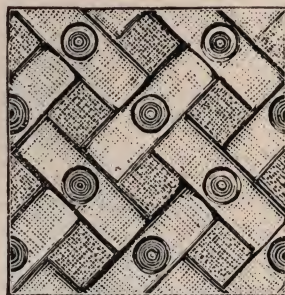
No. 681

10x6 in.	Each.....	30c
4x2½ in.	Each..	7c



No. 648

6 in.	Each.....	20c
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No. 1180

18 in.	Each.....	60c
18 in.	Per ft.....	50c



No. 611

8x5 in.	Each.....	15c
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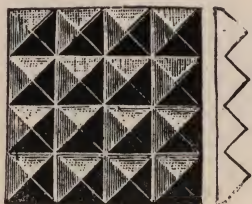
No. 627

12x6½ in.	Each.....	44c
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No. 684

4½ in.	Each.....	12c
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No. 1186

12 in.	Each.....	40c
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No. 671

3 in.	Each.....	7c
4 in.	Each.....	10c
5 in.	Each.....	15c
6 in.	Each.....	20c
8 in.	Each.....	30c



No. 608

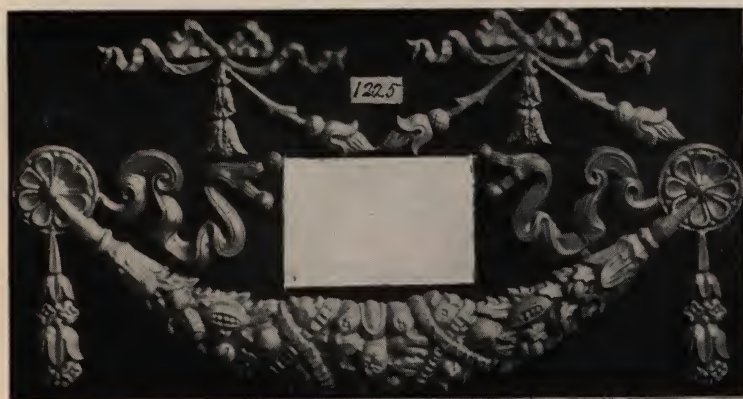
10 in.	Each.....	38c
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No. 645

10 in.	Each.....	35c
8 in.	Each.....	25c

ORNAMENTS—Continued



No. 1200

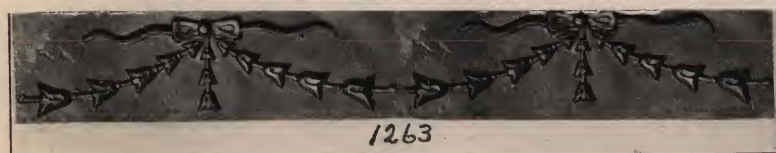


No. 1224



No. 1219

No. 1219. 39 in. long, 13 in. deep, 32 in. on center. Each.....\$2.00
 No. 1219. 49 in long, 14 in. deep, 42 in. on center. Each..... 2.50



No. 1263. 21 in. on centers, 6 in. deep (not sawed out). Per ft.....\$.25



No. 115

No. 115. 17 in. long, 5½ in. deep. Each....\$ 50
 No. 1200. 49 in. long, 16 in. deep. Each....\$3.00
 No. 1200. 59 in. long, 16 in. deep. Each.... 3.50
 No. 1224. 33 in. long, 24 in. deep. Each.... 3.50
 No. 1225. 37 in. long, 10 in. deep, 21 in. on center. Each..... 1.40



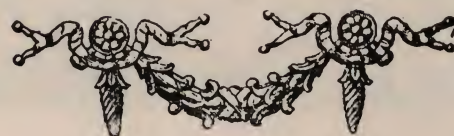
No. 1227

No. 1227. 32 in. long, 12 in. deep, 20 in. on center. Each.....\$1.20



No. 1218

No. 1218. 36 in long, 12 in. deep. Each....\$1.60
 No. 1218. 48 in. long, 15 in. deep. Each.... 2.00



No. 1220

No. 1220. 37 in. long, 10 in. deep, 21 in. on centers. Each.....\$1.80



No. 1221

No. 1221. 14 in. long, 6 in. deep. Each....\$.50

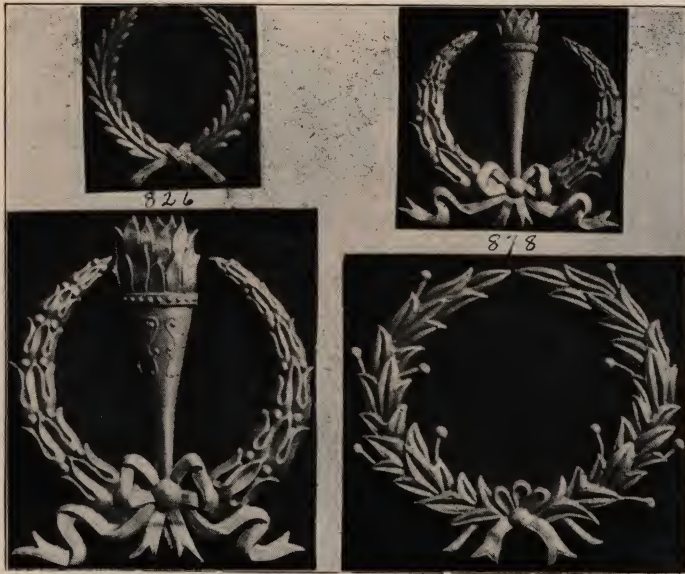


No. 1272

No. 1272. 8x4½ in. Each.....\$.20



ORNAMENTS—Continued



No. 823

No. 882

No. 826.	8x 9 in.	Each.....	\$.30
No. 823.	14x16 in.	Each.....	.80
No. 878.	11x11 in.	Each.....	.60
No. 882.	14x15 in.	Each.....	.75



No. 359

No. 359. 24x12 in.....\$1.25



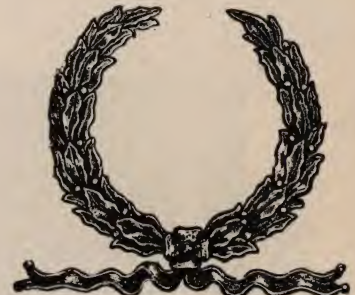
No. 587.

10x12 in.....\$.50



No. 196

22x24 in. Each.....\$2.50



No. 1236

22x18 in. Each.....\$1.25



No. 1242

12x12 in. Each.....65c



No. 1269

28x28 in. Each.....\$3.00



No. 543.

4x5 in.....\$.10



No. 1271

50x17 in. Each.....\$3.00

ORNAMENTS—Continued



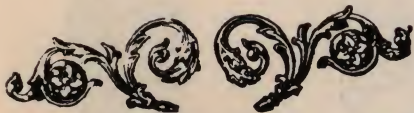
No. 138. 15x25 in. each.
Pair.....\$3.25

No. 185. 6x11 in. each.
Pair......60

No. 365. 36x18 in. Pair.. 5.50

No. 365

No. 573. 8½ in. Pair....\$.40



No. 561. 14 in. Pair.....\$.55



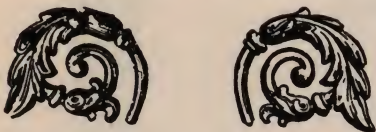
No. 1237

No. 1237. 19x9 in. Pair.....\$1.00



No. 550

No. 550. 26x12 in. Pair.....\$1.75



No. 591. 9 in. Pair.....\$.75



No. 582

No. 582. 6½ in. Pair.....\$.30



No. 567

No. 567. 17x8 in. Pair.....\$1.10



No. 594

No. 594. 11 in. Pair.....\$.50



No. 599

No. 599. 15x10 in. Pair.....\$.90
No. 599. 24x12 in. Pair..... 1.90



No. 570

No. 570. 15x10 in. Pair.....\$.75



No. 592

No. 592. 13 in. Pair.....\$.40



No. 552

No. 552. 16 in. Pair.....\$.65



No. 1241

14x19 in. Pair.....\$2.00



ORNAMENTS—Continued



No. 562

20x6 in. Per pair.....\$1.00



No. 589

13x6 in. Per pair.....50c



No. 571

13 in. Per pair.....60c



No. 515

Full Circle, 8 in.
high. Each.....60c

No. 513

Full Circle, 7 in.
Each.....50c

No. 509

4x6 in. Each.....15c



No. 511

5x7 in. Each.....18c



No. 553

9 in. Per pair.....45c



No. 598

11 in. Each.....15c
14 in. Each.....20c

No. 595

7x14 in. Each.....50c



No. 565

12x13 in. Each.....60c



No. 1240

5x21 in. Each.....80c



No. 527

7x30 in. Each....\$1.60



No. 508

Full Circle, 11 in.
Each.....60c

No. 1239

3x12 in. Pair.....40c



No. 1238

4x11 in. Pair.....40c



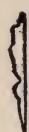
No. 505

7 in. Each.....12c



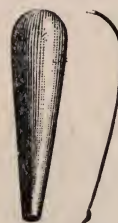
No. 551

10½x7½ in. Pair..40c



No. 518

13x3½ in. Each..25c



No. 512

8 in. Each.....10c



No. 502

7 in. Each.....12c



No. 581

8 in. Per pair.....25c
4½ in. Per pair.....14c

No. 585

7x9 in. Each.....20c

ORNAMENTS—Continued



No. 395

13x10 in. Each.....50c
Face for truss



No. 541

13x10 in. Each.....50c
Face for truss



No. 293

Neck 3½ in. Height 8½
in. In parts. Each.....70c



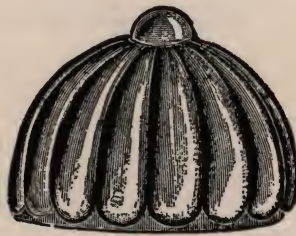
No. 514

Neck, 2 in. Height 5 in.....30c
Neck, 2½ in. Height 9
in.....65c



No. 743

7x10 in.....46c
7x12 in.....50c
7x14 in.....55c
7x16 in.....62c
7x18 in.....68c



No. 285

12x9 in. full circle. In parts..\$1.40



No. 767

6x 9 in.....38c
6x10 in.....42c
6x12 in.....46c
6x14 in.....50c



No. 732

6x12 in.....50c
6x15 in.....60c
6x17 in.....70c



No. 753

4x6 in. Each.....13c



No. 745

5x6 in. Each.....15c



No. 731

8x12 in.....55c
8x14 in.....60c
8x16 in.....66c
8x18 in.....72c
8x20 in.....80c



No. 758

3½x4½ in. Each..10c



No. 761

4x6½ in. Each....15c



No. 766

5x 8 in.....20c
5x10 in.....24c
5x12 in.....29c
5x14 in.....33c



No. 276

Neck, 1½ in. Height,
12 in. In parts..65c



No. 742

2¼x3 in. Each.....4c



No. 736

6x 8 in. Each.....30c
9x11 in. Each.....40c



No. 748

5x6½ in. Each.....18c



No. 279

Height 9 in. Neck 4
in. In parts.
Each75c



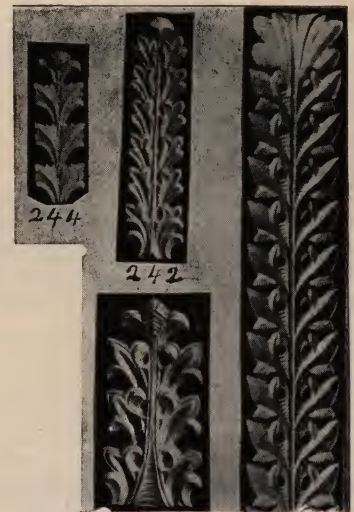
No. 765

2½x5½ in. Each....9c



No. 729

4x 6 in.....15c
4x 8 in.....18c
4x10 in.....22c
4x12 in.....28c



No. 245 No. 246

No. 242. 3½x17 in. Continuous
leaf.....35
No. 244. 3½x11 in. Continuous
leaf.....25
No. 245. 7 x14 in. Continuous
leaf.....50
No. 246. 7 x39 in. Continuous
leaf.....\$1.00

9x12 in.....60c
9x14 in.....66c
9x16 in.....72c
9x18 in.....80c
9x20 in.....88c

No. 727
10x14 in.....72c
10x16 in.....76c
10x18 in.....80c
10x20 in.....92c



ORNAMENTS—Continued



No. 992

11x12 in.	Each.....	70c
10x11 in.	Each.....	60c
9x10 in.	Each.....	50c
8x 9 in.	Each.....	45c



No. 986

12x14 in.	Each.....	85c
10x12 in.	Each.....	65c



No. 989

10x12 in.	Each.....	50c
8x10 in.	Each.....	35c



No. 843

7x8½ in.	Each.....	30c
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No. 997

4x4½ in.	Each.....	12c
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No. 944

6½x8½ in.	Each.....	25c
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No. 945

5½x7 in.	Each.....	15c
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No. 995

10x12 in.	Each.....	50c
12x15 in.	Each.....	75c



No. 971

12x13 in.	Each.....	80c
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No. 950

Quotations will be made on spun or stamped balusters upon receipt of details and specifications, stating quantity wanted.



No. 789

25x25x18 in.	Each.....	\$6.50
13x13x13 in.	Each.....	2.20



No. 785

18x18x21 in.	Each.....	\$3.00
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Spun Half Balls

		Zinc	Copper
1 in.	Per 100.....	\$ 1.50	\$ 3.90
1½ in.	Per 100.....	2.00	4.25
2 in.	Per 100.....	3.20	5.50
2½ in.	Per 100.....	3.70	9.00
3 in.	Per 100.....	4.50	11.00
3½ in.	Per 100.....	5.80	14.75
4 in.	Per 100.....	7.80	19.00
5 in.	Per 100.....	10.50	27.50
6 in.	Per 100.....	16.00	37.00
7 in.	Per 100.....	19.40	50.00
8 in.	Per 100.....	27.00	70.00
9 in.	Per 100.....	30.00	100.00
10 in.	Per 100.....	38.00	135.00
11 in.	Per 100.....	48.00	
12 in.	Per 100.....	60.00	
16 in.	Per 100.....	160.00	
18 in.	Each.....	3.00	
20 in.	Each.....	4.50	
22 in.	Each.....	6.00	
24 in.	Each.....	8.00	

ORNAMENTS—Continued



No. 400

1/2 in.	Per ft.	5c
3/4 in.	Per ft.	7c



No. 401

1 in.	Per ft.	8c
1 1/2 in.	Per ft.	10c
2 in.	Per ft.	12c



No. 496

2 in.	Per ft.	14c
-------	---------	-----



No. 408

2 1/2 in.	Per ft.	16c
-----------	---------	-----



No. 410

2 in.	Per ft.	12c
3 in.	Per ft.	16c



No. 428

2 1/2 in.	Per ft.	14c
-----------	---------	-----



No. 530

3 in.	Per ft.	18c
4 in.	Per ft.	22c



No. 426

4 in.	Per ft.	18c
-------	---------	-----



No. 407

1 in.	Per ft.	8c
1 1/2 in.	Per ft.	10c
2 in.	Per ft.	12c
3 in.	Per ft.	16c
4 in.	Per ft.	20c



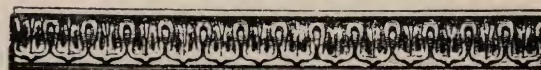
431

3 in.	Per ft.	15c
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No. 425

6 in.	Per ft.	32c
7 in.	Per ft.	38c
8 in.	Per ft.	46c
9 in.	Per ft.	55c



No. 427

4 in.	Per ft.	22c
-------	---------	-----



No. 528

1 in.	Per ft.	8c
-------	---------	----



No. 404

1 1/2 in.	Per ft.	12c
-----------	---------	-----



No. 433

1 1/2 in.	Per ft.	9c
2 in.	Per ft.	12c
3 in.	Per ft.	15c
4 in.	Per ft.	20c
4 1/2 in.	Per ft.	22c
5 in.	Per ft.	25c



No. 430

1 1/2 in.	Per ft.	10c
2 in.	Per ft.	12c
3 in.	Per ft.	16c
4 in.	Per ft.	22c



No. 422

4 in.	Per ft.	18c
-------	---------	-----



ORNAMENTS—Continued



No. 458

8 in. Per ft.....40c
10 in. Per ft.....50c



No. 498

6 in. Per ft.....32c
8 in. Per ft.....40c
9 in. Per ft.....45c



No. 418

7 in. Per ft.....40c



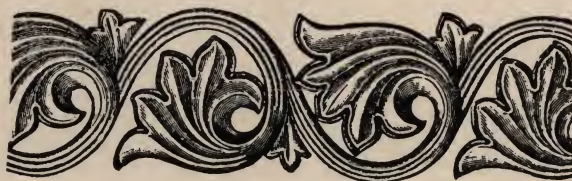
No. 423

4 in., without margin. Per ft.....20c
5 in., as shown. Per ft.....26c
6 in., margin on either side.....30c



No. 525

5 in. Per ft.....20c
8 in. Per ft.....30c



No. 448

8 in. Per ft.....40c
8 in. Not sawed out.....40c



No. 523

13 in. Per ft.....\$.60
24 in. Per ft.....\$1.30



No. 535

7½ in. Per ft.....30c



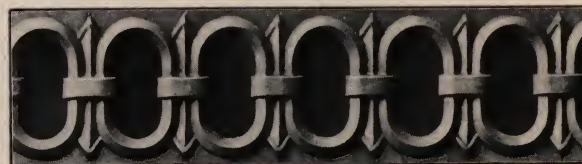
No. 455

6½ in., not sawed out. Per ft.....30c
6½ in., sawed out. Per ft.....30c



No. 75

8 in. Cresting. Per ft.....35c



No. 435

10 in., sawed out. Per ft.....60c
10½ in., not sawed out. Per ft.....60c



No. 446

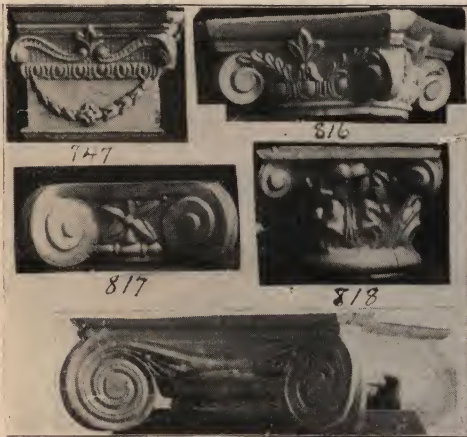
8 in. Per ft.....40c



No. 414

1¾ in. Per ft.....10c
2 in. Per ft.....12c
3 in. Per ft.....16c
4 in. Per ft.....20c

Capitals



No. 820



No. 707. Height 12 in., abacus 15 in.,
diameter at neck 7½ in.
Full capitals. Each.....\$8.00
Half capitals. Each..... 4.50



No. 719. Height 9½ in., abacus 13 in.,
diameter at neck 6½ in.
Full capitals. Each.....\$2.50
Half capitals. Each..... 1.50



No. 709. Height 10 in., abacus 13 in.,
diameter at neck 7 in.
Full capitals. Each.....\$5.50
Half capitals. Each..... 3.00



No. 712. Height 7 in.,
abacus 8 in., diameter
at neck 4 in.
Full Capitals. Ea..\$1.75
Half Capitals. Ea.. 1.00



No. 722. Height 9 in., abacus 12 in.,
diameter at neck 6 in.
Full capitals. Each.....\$2.75
Half capitals. Each..... 1.50



No. 702. Height 17 in., abacus 22 in.,
diameter at neck 12 in.
Full capitals. Each.....\$12.50
Half capitals. Each..... 6.75



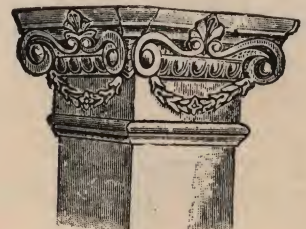
No. 715. Height 5 in.,
abacus 7½ in., diameter
at neck 4 in.
Full Capitals. Each....\$1.50
Half Capitals. Each.... .85



No. 720. Height 9 in.,
abacus 13 in., diameter
at neck 5 in.
Full Capitals. Each....\$3.50
Half Capitals. Each.... 2.00



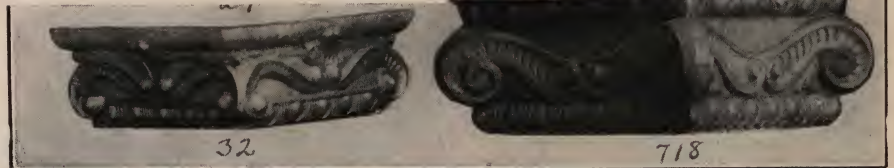
No. 716. Height 6 in., abacus 8 in.,
face of pilaster 5 in.
Full capitals. Each.....\$1.25
Half capitals. Each..... .75



No. 701. Height 12 in., abacus 16 in.,
face of pilaster 12 in.
Full capitals. Each.....\$5.00
Half capitals. Each..... 2.75

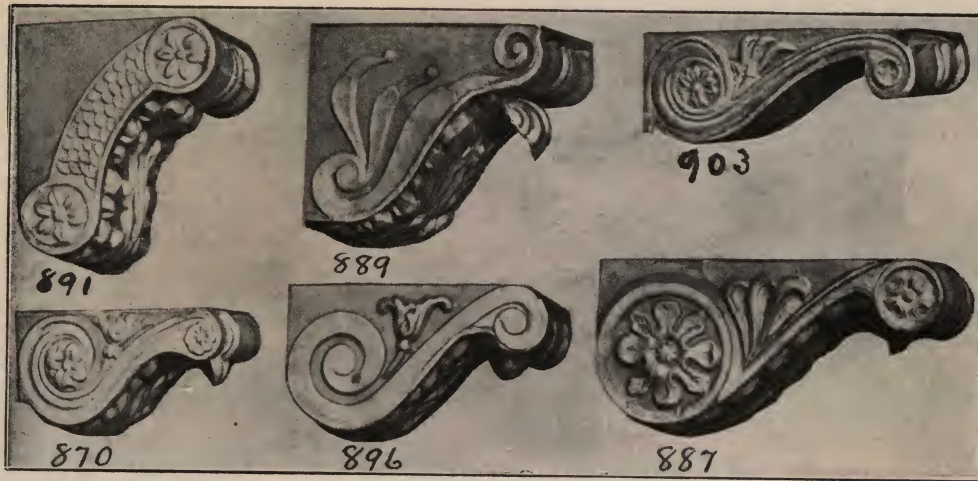
	Each	Half
No. 32. Height 6 in., abacus 15 in., face of pilaster 13 in.....	\$4.50	\$2.50
No. 717. Height 6 in., abacus 9 in., diam. at neck 4½ in.....	2.00	1.10
No. 51. Height 4 in., abacus 11 in., face of pilaster 8 in.....	2.50	1.35
No. 718. Height 9 in., abacus 17 in., face of pilaster 15 in.....	6.00	3.50

	Each	Half
No. 820. Height 7 in., abacus		
No. 816. Height 6½ in., abacus		
24 in., diam. at neck 15 in..	\$15.00	\$8.00
12½ in., diam. at neck 10 in..	5.50	3.00
No. 817. Height 4 in., abacus		
8½ in., diam. at neck 6 in..	2.50	1.50
No. 818. Height 6½ in., abacus		
8½ in., diam. at neck 5¼ in..	3.00	1.75
No. 747. Height 8 in., abacus		
12 in., face of pilaster 8 in..	3.50	2.00





Cornice Brackets

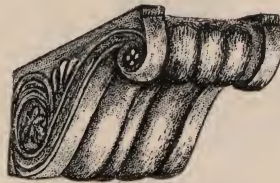


No. 881

No. 812.	21	in. proj.,	6 in. deep,	9½ in. face,	in parts.	Each.....	\$2.25
No. 811.	8½	in. proj.,	3 in. deep,	4 in. face,	in parts.	Each.....	.65
No. 891.	9	in. proj.,	10 in. deep,	7 in. face,	in parts.	Each.....	1.40
No. 889.	12	in. proj.,	10 in. deep,	6 in. face,	in parts.	Each.....	1.60
No. 903.	13	in. proj.,	5 in. deep,	6½ in. face,	in parts.	Each.....	1.10
No. 896.	11	in. proj.,	6 in. deep,	7 in. face,	in parts.	Each.....	1.25
No. 887.	15	in. proj.,	7 in. deep,	6 in. face,	in parts.	Each.....	1.65
No. 887.	15	in. proj.,	7 in. deep,	8 in. face,	in parts.	Each.....	1.85
No. 881.	11	in. proj.,	5 in. deep,	6 in. face,	in parts.	Each.....	1.20



No. 873. 12 in. proj., 6 in. deep, 10 in. face. In parts. Each.....\$1.75



No. 883. 13 in. proj., 5½ in. deep, 5 in. face. In parts. Each.....\$1.00



No. 871. 13 in. proj., 5½ in. deep, 6 in. face. In parts. Each.....\$1.20



No. 874. 10 in. proj., 6 in. deep, sides only. Per pair.....50c

These prices do not include bed-moulds and are K. D. in parts unless we are requested to quote prices for them set-up and complete with bed-moulds.



No. 869. 12 in. proj., 6 in. deep, 6 in. face. In parts. Each.....\$1.35

Gravel, Felt and Composition Roofing

OLD STYLE COMPOSITION ROOFS



Are the Best Roofs Obtainable and Most Reasonable in Price

PATCHING AND RESURFACING
OLD ROOFS OUR SPECIALTY

Estimates Cheerfully Furnished

WE HANDLE ALL UP-TO-DATE PREPARED ROOFINGS

RUBBER ROOFING

COATING OF FOUNDATION WALLS WILL HAVE CAREFUL ATTENTION

Highest Grades of

ASPHALT and ASBESTOS SHINGLES

The privilege of quoting prices will be appreciated.

This department is under the supervision of a thoroughly competent roofing man and satisfaction is guaranteed.

Prices will be named for any work completely installed under guarantees, or will quote on your material requirements with freight charges allowed to any station you designate.



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591	155	811	162	1280	151	4520	81
592	155	812	162	1296	135	4557A	81
594	155	816	161	1301	144	4574	80
595	156	817	161	1302	144	4576	83
598	156	818	161	1304	143	4583	85
599	155	820	161	1305	143	4583A	85
602	151	823	154	1306	46	4604	84
603	151	826	154	1307	46	4632	80
608	152	828	137	1308	145	4650	83
611	152	832	138	1309	145	4718	77
613	152	834	138	1310	145	4719	76
619	151	837	138	1312	145	4725	53
622	152	840	138	1314	145	4728	75
623	151	842	138	1315	145	4730	79
625	151	843	158	1317	143	4734	78
627	152	869	162	1318	143	4875	71
629	151	870	162	1319	143	4914	70
632	151	871	162	1322	144	4973	58
635	152	873	162	1323	144	5004	72
637	151	874	162	1324	134	5061	74
638	151	875	138	1325	134	5126	66
639	152	878	154	1326	134	5133	73
640	151	881	162	1327	86	5142	65
641	151	882	154	1328	86	5197	69
645	152	883	162	1329	87	5210	67
648	152	887	162	1330	87	5248	68
650	151	889	162	1339	112	5319	57
652	152	891	162	1365	112	5380	52
657	151	896	162	1366	112	5412	50
659	152	903	162	1367	112	5422	56
666	151	944	158	1368	112	5444	51
671	152	945	158	1373	112	5448	60
677	151	950	158	1376	112	5451	59
678	151	952	151	1380	112	5462	61
680	151	971	158	1387	104	5465	62
681	152	986	158	1388	104	5466	64
684	152	989	158	1390	107	5467	63
685	151	992	158	1391	106		







DISCOUNT SHEET

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4 to	14.	Metal Windows.....	On receipt of specifications	
	15.	Tin-clad Doors and shutters.....	50% discount	
	16.	No. 151 and 152.....	50% discount	
	17.	No. 149 and 150.....	30-10% discount	
	19.	No. 153.....	50% discount	
	20.	No. 155.....	30-10% discount	
	21.	No. 154.....	50% discount	
	22.	No. 168.....	50% discount	
23 -	24.	No. 157 and 169.....	40- 5% discount	
	25.	No. 142.....	30-10% discount	
26 to	34.	Door Fixtures.....	50% discount	
	35.	No. 109, Fusible Links.....	50% discount	
36 to	40.	Skylights.....	50% discount	
	41.	Glass.....	Prices on application	
42 to	45.	Ventilators.....	50% discount	
	46.	Skylight Guards.....	Prices on application	
47 to	85.	Metal Ceilings.....	50% discount	60-10
86 to	88.	Marquise and Canopy.....	Prices on application	
89 -	90.	Basement Frames.....	50% discount	
	91.	Standard Gutters.....	Galv. Steel..... 50% discount	75-10-10
			Galv. Toncan 74 1/2% discount	
	92.	Roof Gutters Nos. 162, 163, 198.....	Galv. Steel..... 50% discount	75-10-10
			Galv. Toncan... 70% discount	
	92.	Gutter Braces Nos. 331, 332, 333.....	50% discount	
	93.	Double Gutters Nos. 286, 287.....	Galv. Steel..... 50% discount	
			Galv. Toncan... 40% discount	
			Copper..... 50% discount	
	94.	Eave Troughs.....	Galv. Steel..... 50% discount	75-10
			Galv. Toncan 69 3/4% discount	
			Copper..... 25- 5% discount	
	95.	Eave Trough Miters and End Pieces.....	Galv. Steel..... 50% discount	40-10
			Galv. Toncan... 40% discount	
			Copper..... 25- 5% discount	
	96.	Conductor Pipe.....	Galv. Steel..... 50% discount	70
			Galv. Toncan 61 3/4% discount	
			Copper..... Prices on application	
	97.	Conductor Elbows.....	Galv. Steel..... 50% discount	70
			Galv. Toncan..... Prices on application	
			Copper..... Prices on application	
	97.	Cutoffs.....	Galv. Steel..... 60% discount	
			Galv. Toncan..... Prices on application	
			Copper..... Prices on application	
	97.	Wire Strainers (Conductor Pipe).....	70% discount	
	98.	Sewer Connections.....	25% discount	
		Conductor Heads.....	50% discount	
		Conductor Hooks.....	Net	
	99.	Ridge Roll and Hip Cap.....	Galv. Steel... 8 1/4% discount	75-10-5
			Galv. Toncan 69 3/4% discount	
			Galv. Steel..... 51% discount	60-10
		Formed and Roll Valleys.....	Galv. Toncan... 54% discount	
		Tin Plate in Rolls.....	50% discount	
100.		Eave Trough Hangers.....	Steel..... 20% discount	
			Wire..... 33 1/4% discount	
		Roof Shields—Saddles and Caps, Nos. 148-199.....	Receipt of Specification	
		Speaking Tubes and Whistles.....	30% discount	
	101.	No. 161, Washers.....	50% discount	
		Flat Seam Tin Roofing.....	Receipt of Specifications	
		Flashings, Tin and Galv., No. 146.....	25% discount	
		Rivets and Bolts.....	Prices on application	
	102.	Furnace Pipe and Fittings.....	Special Catalog and prices on request	
		Registers, Borders, Faces.....	Special Catalog and prices on request	
		Asbestos Paper.....	At market prices	
		Dampers and Clips.....	At market prices	
		Furnace Cement.....	At market prices	
	103.	Galv. O. H. Steel Sheets.....	At market prices	
		Galv. Toncan Metal Sheets.....	At market prices	
		Sheet Zinc.....	At market prices	
	104.	Shingles and Spanish Tile.....	Receipt of Specifications	
105.		Nos. 1398, 1399, 1400, 1401, 1402.....	50% discount	

BASE PRICES 2 IN., 2½ IN. AND 3 IN. CORRUGATION

	S T E E L												
	29 Ga.	28 Gauge		27 Gauge		26 Gauge		24 Gauge		22 Gauge		20 Gauge	
	A SQ.	A SQUARE		A SQUARE		A SQUARE		A SQUARE		A SQUARE		A SQUARE	
	Galv'd	Painted	Galv'd	Painted	Galv'd	Painted	Galv'd	Painted	Galv'd	Painted	Galv'd	Painted	Galv'd
BASE													
DIFFERENTIALS TO BE ADDED TO BASE													
1¼ in. and ½ in. Corrugated	10c	10c	10c	10c	10c	10c	10c	10c	25c	15c	30c	15c	30c
V Crimp, without Sticks	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base	Base
V Crimp, with Sticks	10c	10c	10c	10c	10c	10c	10c	10c	10c	10c	10c	10c	10c
3V Crimp, without Sticks	15c	10c	15c	10c	15c	10c	15c	10c	20c	10c	20c	10c	25c
3V Crimp, with Side Sticks	25c	20c	25c	20c	25c	20c	25c	20c	30c	20c	30c	20c	35c
3V Crimp, with Side and Center Sticks	35c	30c	35c	30c	35c	30c	35c	30c	40c	30c	40c	30c	45c
Pressed Standing Seam, without cleats	10c	10c	10c	20c	10c	20c	10c	20c	15c	20c	25c	20c	35c
Pressed Standing Seam, with Cleats	20c	15c	20c	25c	20c	25c	20c	25c	25c	25c	35c	25c	45c
Plain Roll, without Fixtures	15c	10c	15c	20c	15c	20c	15c						
Plain Roll, with Cleats	25c	20c	25c	30c	25c	30c	25c						
Roll and Cap, with Caps and Cleats	50c	25c	50c	35c	50c	50c	50c						
Pressed Brick Siding	10c	10c	10c	10c	10c	10c	10c						
Rock Faced Brick and Stone	20c	20c	20c	20c	20c	20c	20c						
Weatherboard Siding	35c	30c	35c	40c	35c	40c	35c						
Beaded Ceiling	30c	20c	30c	30c	35c	30c	35c						
For Curving 2½ in. Corrugated, Single Curve	20c	15c	20c	20c	20c	20c	25c	25c	30c	35c	40c	40c	45c

109.	Roofing Slate and Accessories.....	Prices on application
	Roofing Tin.....	At market prices
	Copper Sheets, etc.....	At market prices
	Sidewalk Lights.....	On Receipt of Specifications
110.	Hip Shingles.....	Special Catalog on request
	Base Scream.....	66⅔% discount
	Wall and Veneer Ties.....	50% discount
111.	Expanded Metal Lath.....	66⅔% discount
	Corner Bead.....	Prices on application
112.	Niagara Snips.....	50% discount
	Tools.....	25% discount
113 - 114.	Store Fronts, Bay Windows.....	Special complete Catalog and prices on application
115 to 122.	Cornices.....	On Receipt of Specifications
123 to 136.	Crestings, Finials, etc.....	30% discount
137 - 138.	Gable Ornaments.....	30% discount
139.	Signs, Letters, Numerals.....	30% discount
140.	Wall Safes.....	33⅓% discount
141 - 142.	Iceless Refrigerator.....	50% discount
	Vegetable Display Stand.....	25% discount
	Grocery Baskets.....	Prices on application
143 - 145.	Iron Work.....	Prices on application
146 - 147.	Coal Chutes, etc.....	On Receipt of Specifications
148 to 150.	Ceiling Centers.....	30% discount
151 to 162.	Ornaments.....	33⅓% discount
158.	Zinc Half Balls.....	30% discount
158.	Copper Half Balls.....	Add 10% to list
163.	Paper and Rubber Roofings.....	Prices on application
		Prices on application.